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A remarkable Structure and Appearance of the External Organs of Generation in a Calf, with a Plate, communicated by W. SANDFORD, *Surgeon.*

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

OBSERVING a Case of Lusus Naturæ, with a plate, in your Journal for August, it reminded me of one which I remarked about three years past, and of which I obtained a drawing. If you think it worth a place in your valuable Miscellany, it is at your service.

I am,

GENTLEMEN,

Your's, &c.

Worcester, W. S.

Sept. 14, 1799.

TUESDAY, August 23, 1796, Mr. PAYNE, of Bridge-street, killed a calf ten weeks old, that was supposed to have in some respects the genital organs of both sexes united; and not being a twin calf, was on this account esteemed more remarkable.

On the first view the animal appeared to have testicles, which seemed disposed in a very singular manner, each testis having a compleat and separate scrotum, at a considerable distance from each other.

The penis, (as it afterwards proved to be) instead of proceeding in the usual direction along the abdomen of the calf, terminated in its sheath immediately between these apparent testicles, and in one point of

view refembled the vagina of a cow, with its *bearing* rather more dependent than ufual.

This remarkable appearance feemed in fome degree confirmed by the animal voiding its urine backwards, in the fame manner as the cow.

Externally, and on each fide the abdomen, in their ufual fituation, were two teats or nipples, at the diftance of about three inches from the pouches or fcrota, as is fhewn in the drawing, No. 1.

In order to be fully fatisfied that the fubftance refembling the penis of the bull, was not an elongated *clitoris*,* (a miftake that has fometimes happened,) I firft examined with a probe, and finding it pervious, introduced a director, and then laid it open to the ramus of the ifchium, and by this means traced the urethra along its courfe towards the bladder, as far as the inftrument could be paffed.

After this examination I diffected out the penis its whole length.

Thefe circumftances were more than fufficient to remove all doubt with refpect to its fituation and appearance, as an *elongated clitoris*, and at the fame time particularly to diftinguifh the fex.

The abdomen being then laid open, and the os-pubis carefully divided, I proceeded to examine the *internal* organs of generation, but found nothing in thefe by any means præternatural or confufed.

The teftes were within the abdomen, and were placed on each fide, correfponding to the pouches, † into which they would moft probably have defcended, had the calf been reared.

The diftance from the verge of the anus to the extremity of the fheath or vagina, meafured nearly *twelve inches*.

The appearances that may, perhaps, be efteemed moft worthy remark in the external genitals of this calf, are the fituation and diftinctnefs of the

* In fome inftances the penis has been miftaken for the clitoris, as was the cafe in a child of *feven years* old, upon whom, at *this period*, Mr. Brand performed an *operation*, and by this means transformed an apparent girl into a boy; for a defcription of which fee "Cafe of a Boy miftaken for a Girl, with three Anatomical Views of the Parts, 4to printed for the author, *Soho-Square, London.* Murray, 1787."

† Thefe, upon examination, were difcovered to be formed of cellular and adipofe membrane.

the two ſcrota, together with the ſingularity in appearance, and deficiency in length, of the penis, from which circumſtances (had the calf grown up) it would aſſuredly have been prevented from copulating, and at the ſame time would have had the appearance of what is commonly called, an Hermaphrodite.

The *Free Martin,* (as it is uſually ſtiled) has, I believe, the external parts of generation, reſembling moſt thoſe of the common cow; the internal organs have been found to differ very materially. Theſe anatomical peculiarities the late ingenious Mr. JOHN HUNTER * has given very accurate and ſatisfactory deſcriptions of, illuſtrated by excellent engravings of the generative organs of three differently formed *Free Martins,* that he had an opportunity of diſſecting.

The circumſtance of the Free Martin *never* having been known to breed, is by ſome experienced graziers' ſaid to be *falſe.* Others have aſſerted, that the bull calf, under this deſcription of twin, will not procreate unleſs he chance to be the firſt twin calved; many other as extraordinary remarks have been made, that upon compariſon appear too vague and contradictory to place any dependence upon. This peculiarity, therefore, in the animal œconomy, and the degree of generative power annexed to it, muſt remain in its preſent ſtate of uncertainty till further experiments properly conducted, and reſpectably authenticated, ſhall be preſented to the public.

EXPLANATION OF THE DRAWING, No. 1.

TO have a perfect idea of the parts deſcribed in this drawing, the ſpectator muſt imagine the leg and thigh on the left ſide of the animal removed. In this view the ſheath, together with the hairs towards its point, appear to take their natural direction, and are of the ſame kind as thoſe uſually obſerved to grow upon this part when it terminates in its uſual ſituation.

EXPLA-

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* See his "Obſervations upon certain parts of the Animal Œconomy." 4to. p. 52.

In this Philoſophical work, Mr. HUNTER has alſo given his ideas on the nature of Hermaphrodites; and remarks, that he has "frequently met with ſheep, that appeared to be "*imperfect males, having the penis terminating in the perinæum, the orifice of which appeared like the bearing in the female.*" p. 51.

This was preciſely the caſe in Mr. PAYNE's calf, and is therefore more reconcileable Mr. HUNTER's example of the *imperfect male* above deſcribed, than of the Free Martin.

EXPLANATION OF THE DRAWING, No. 2.

THIS exhibits the external parts when diſſected from the abdomen and part of the perinæum; they are extended and repreſented in their poſition, to ſhew the ſeparate formation of the two ſcrota, and their diſtance from each other, which, by meaſurement when on the belly of the animal, was nearly ſix inches.

To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

THE etiquette of authorſhip, I ſuppoſe, requires me to anſwer the correſpondent who, in your laſt Number, maintains that he has not *falſely* repreſented me. My anſwer is reducible to two ſhort and eaſily proved propoſitions. 1. The quoted paſſages do not neceſſarily imply coincidence with Dr. GIRTANNER. 2. There has exiſted, for ſome years, incontrovertible proof that I always differed from him materially.

1. That hyperoxygenated blood is more ſtimulating, and hyperoxygenated muſcle more irritable, I truſt I have aſſiſted in rendering probable. But if the oxydable animal baſe be altered by diminution or loſs of any of its principles, the new compound, however charged with oxygene, may become leſs irritable, or altogether incapable of irritation. This was my view in penning the quoted paſſages: I had no idea of oxygen being the abſolute principle of irritability. In ſaying that "attention is not leſs due to the other elements of organized bodies," I ſurely never dreamed of apologiſing for a conjecture ſimilar to MAYOW's, relative to muſcular action.—The paſſage has nothing apologetical in ſenſe or ſound.—The conjecture needed no "kind of apology" at the time. It needs none now.

In what I firſt wrote, no man can find two oppoſite opinions. Any man might find much diſagreement with Dr. GIRTANNER; and the queſtion (if the philoſophical linguiſt will allow the diſtinction) reſpects diverſity, not oppoſition, of doctrine.

2. In your Journal (p. 203) a formal proteſt is mentioned, the term *formal* being interpolated by your correſpondent. It is true, I do not any where ſay—

"Know

"Know all men by these presents, *That I,* THOMAS BEDDOES, "M. D. *do disagree with* CHRISTOPHER GIRTANNER, M. D. *in* "*manner and form following.*" But almost two years before the appearance of your correspondent's book, I wrote as follows:

"Mr. HERDMAN is said to have refuted the opinion that the excitability of the animal fibre depends on oxygene. Dr. GIRTANNER, "with whom no individual perhaps in this country has expressed his "concurrence, may indeed have been refuted. The task was truly easy. "But that the oxygene received in respiration, and distributed to the "muscles, combines with azote, hydrogene, and carbone, to form water "and various saline compounds, is a supposition which no one has yet "shewn to be at variance with fact. *The two hypotheses* differ essenti-"ally." *(Cons. on Factitious Airs, Part last, or* V. *page* 39.) The passage respecting the other elements of organized bodies is then produced; and must it not be considered as thus converted into a protest, if any thing (which I do not admit) had been before wanting to its formality? —How far your correspondent's remissness in not making himself acquainted with the latest explanations of those whom he quotes to refute, or as virtually refuted, may be culpable, or his assurance in persevering to fix upon one man the notions of another, may "equal his other "powers," it is not for me to decide.

The term false I apprehend to be often synonimous with *erroneous*—*not just.* What is hinted about *irritation* is as irrelevant as it is unfounded in fact.—Among the misfortunes which I have learned to bear without impatience, I can honestly reckon the dissent or censure of authors of works like that on *Mental Derangement.*

Your correspondent's smartness, or solemnity, I aspire not to imitate. It is not for me to summon the medical world to sit as jurors on the history or the nature of my opinions. The idle in general, and the curious about trifles, will be amused with a squabble like the present.—In my reply, and in the paper which occasioned it, they will find enough to inform their judgment; at least, I hope so; for I have done with the subject; and, in all brevity, remain,

GENTLEMEN,

Your's,

Oct. 4, 1799. THOMAS BEDDOES.

Extracts

Extracts of Letters on the Vaccine Inoculation, communicated by Dr. WOODVILLE.

FROM the various accounts in circulation, respecting the variolæ vaccinæ, I felt anxious for an opportunity of observing the effects of a disease, which the introduction of as a substitute for the small-pox, seemed to promise so much benefit to mankind. In the beginning of May last, I was obligingly supplied with a piece of thread that had been impregnated with cow-pox virus, by a respectable surgeon* in the neighbourhood of Birmingham; with this I communicated the disease to two patients, whose cases are here related. Some time after I had commenced inoculation, I was favored with an additional supply of vaccine matter by the kind assistance of Dr. JENNER; with a view of giving it a fair trial, I was particularly careful in the choice of a lancet that had never been used for any other purpose.

On the 11th of May, Thomas and Mary Leicester were inoculated; the former aged two years and a half, and the latter four months. The thread was inserted into the left arm of each, by means of a superficial scratch, and secured upon the part with adhesive plaister.

14th. The arms of both the children appeared inflamed.

15th. The inflammation increased, and affected the boy's arm more extensively than the girl's.

16th. The cuticle in each began to rise into a vesicle; the boy's arm more forward than the girl's.

17th. The vesicles more elevated; the boy was seized at night with fever, and complained of soreness in the axillæ.

18th. The inflammation of the boy's arm considerably diminished, but the vesicle more prominent, and full of a limpid fluid, with about a dozen pustules surrounding the part. At night his fever entirely subsided.—This evening the girl became feverish and restless.

19th. A small quantity of fluid appeared in the vesicle on the girl's arm, with a slight efflorescence about the tumour, but much less than what appeared on the boy's.—The girl had many distinct pustules on different parts of her body.

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* Mr. ADDINGTON, of West Bromwich.

20th.

20th. She continued indiſpoſed till night, when all febrile ſymptoms diſappeared. An elevated ſmooth brown ſcab remained for a conſiderable time upon each of the children's arms, after all diſcharge from the part had ceaſed. From the arms of the above patients I was ſupplied with matter enough to enable me to extend the practice; the progreſs of the diſeaſe, in general, was ſo ſimilar, that a minute detail of each caſe would be tedious and unintereſting. Sixty-eight patients, from three months to 22 years of age, paſſed ſafely through the cow-pox under my care, without *one* alarming circumſtance. Thirty-nine had an *eruption*, but only two whoſe puſtules arrived to a ſtate of maturation, and thoſe imperfectly. After they were all recovered, I inoculated twelve of them with active variolous matter *without* effect. Their arms appeared inflamed for three or four days, and then gradually got well. I had no opportunity of inoculating a greater number with variolous virus, owing to the parents of the patients being ſo well ſatisfied with the firſt inoculation; from its ſimilarity to the ſmall-pox, that they thought a ſecond trial totally unneceſſary. Several of the patients ſlept with others who had full crops of ſmall-pox puſtules, without being in the leaſt degree affected. The cow-pox patients had the diſeaſe in every inſtance leſs ſeverely than thoſe inoculated with the ſmall-pox, although it was communicated at the ſame time, in the ſame family. A few of the patients inoculated with each diſeaſe had inflammations of their arms that appeared likely to be troubleſome, which were ſoon ſubdued by rubbing into the part unguent. hydrarg. Whenever I have another opportunity of inoculating with vaccine matter, I ſhall be diſpoſed to try Dr. JENNER'S method of arreſting the progreſs of the diſeaſe, by means of mild cauſtic applied to the puſtule on the arm as ſoon as I perceive the ſyſtem affected.

In conſequence of the above experiments, and the confidence I have in the "Reports" of the extenſive experience of my ingenious friend, Dr. WOODVILLE, on the ſubject, I am decidedly of opinion, that the cow-pox is a certain protection againſt the ſmall-pox; that it is conſiderably more mild in its effects on the human ſyſtem by inoculation, and under proper management may be ſafely introduced at any ſeaſon of the year.

Twenty of the above patients had *no* apparent indiſpoſition.

KETLEY, near SHIFFNAL, SHROPSHIRE,

Sept. 11, 1799.

IN

IN compliance with your requeſt I have to inform you that I began to inoculate on the 11th of May, and continued the practice till the latter end of June. The vaccine virus which I received from Mr. Addington, was originally ſent to him by Dr. Pearson, of St. George's Hoſpital. On the 8th of June I uſed that ſent me by Dr. Jenner, and no other during the remainder of my practice. The appearance of an eruption on the two firſt patients ſurpriſed me greatly, as well as thoſe ſubſequently inoculated, till I read your "Reports," when my mind was relieved; and after I was favoured with vaccine virus by Dr. Jenner, I was convinced, from the exact ſimilarity of its effects, that what I had received from Mr. Addington was genuine. At the ſame time I inoculated 50 patients with variolous matter, that I might have an opportunity of obſerving the different effects of the two diſeaſes. And whenever I had it in my power, I inoculated one part of a family with vaccine and the other part with variolous virus. The vaccine patients were ſooner affected, their indiſpoſition in general leſs ſevere, and the diſeaſe of much ſhorter duration than thoſe inoculated with variolous virus. Thoſe few patients whoſe arms were moſt inflamed were of the firſt that were infected, which I attributed to the cold north eaſt wind that prevailed at that time, as they were diſpoſed to become troubleſome ulcers. An eminent ſurgeon in this county, who was employed in inoculating the children of ſeveral reſpectable families with *variolus* matter, poſtponed his practice for a month, on account of the great number of ſore arms that his patients had. After the weather became milder, none of *my* patients gave me trouble, which ſeems as if the ſtate of the atmoſphere, at the commencement of the buſineſs, had ſome influence in producing that effect. As it may afford you more ſatisfaction to have a particular account of the number of puſtules each patient had, I have written it in the ſame form that you did yours in the Reports of your Vaccine Inoculation. The greateſt number of puſtules was generally around the part where the matter was inſerted; they had the appearance that the ſmall-pox has during the eruptive fever, and all (except what I have before mentioned) went off without arriving to a ſtate of maturation.

With ardent wiſhes for a ſpeedy reſtoration of your health,

I remain, dear Sir,

Your obliged and ſincere friend,

Ketley, *Sept.* 29th, 1799. J. EVANS.

The

The following perſons were inoculated with variolous matter without effect, after being affected with the vaccine:

Thomas Barneſley,
Ann Barneſley,
Martha Morgan,
Mary Phillips,
Eleanor Radcliffe,
John Radcliffe,
Thomas Onions,
Mary Plimmer,
Charles Plimmer,
Harriet Williams,
William Pinches,
John Silveſter.

A Liſt of thoſe Perſons who were inoculated with the Vaccine Virus.

	Years of Age.	Months.	Days indiſpoſed	No. of Puſtules.		Years of Age.	Months.	Days indiſpoſed	No. of Puſtules.
Thomas Leiceſter	2	6	1	12	Elizabeth Lloyd	3	6	—	3
Mary Leiceſter	—	4	2	40	Ann Roberts	5	6	2	40
Jane Stevens	2	6	2½	6	Mary Roberts	2	6	1	6
John Perry	1	6	1	16	Hugh Thomas	2	—	1	—
Charles Plimmer	10	—	1	30	Elizabeth Cadman	7	—	—	—
Thomas Plimmer	15	—	1	—	Morris Cadman	4	—	—	—
Mary Plimmer	12	—	2	—	James Cadman	3	—	3	—
Matthew Williams	—	7	—	—	Sarah Jones	4	—	3	—
Martha Morgan	—	9	2	—	William Jones	2	—	—	—
Mary Roſon, ſen.	22	—	3	15	Thomas Cadman	1	—	—	—
Thomas Socket	9	—	—	—	Ann Jones	—	6	3	2
Willam Socket	5	6	—	—	Ann Barneſley	6	—	2	1
Joſeph Socket	1	—	1	3	Thomas Barneſley	3	—	2	3
Thomas Onions	1	3	2	20	Thomas Pearce	2	—	3	1
Benjamin Burrowes	2	—	3	50	Maria Briſcoe	1	6	2	20
Thomas Cranage	—	5	3	18	Mark Dod	3	—	2	1
Jane Jervis	1	—	½	100	Martha Dod	1	6	1	50
Mary Phillips	2	—	2	50	Thomas Cooke	3	—	—	—
Harriet Williams	1	3	—	10	Elizabeth Cooke*	1	—	2	100
Hannah Aaron	3	—	3	2	Elizabeth Hill	—	6	1	—
John Cooke	2	—	1	12	Ann Trickett	—	7	1	—
Mary Bird	4	—	2	20	Elizabeth Hazle	3	—	—	—
Elizabeth Aſton	1	—	—	4	Rebecca Hazle	—	9	—	—
Mary Roſon, jun.	—	4	1	6	William Onions	2	—	—	—
John Radcliffe	4	—	—	—	Jacob Brooks	1	6	—	—
Eleanor Radcliffe	2	6	—	—	Maria Brice	2	6	1	20
Stephen Smith	2	6	—	—	William Brice	1	—	½	30
James Burns	1	6	—	8	John Churm	4	—	1	—
William Dean	3	—	1	—	Thomas Churm	2	—	2	—
Ann Wright	1	6	2	5	James Churm	—	3	1	—
Ann Onions	—	8	½	8	Mary Ann Parker	—	10	½	12
Francis Gregory	7	—	2	6	John Hazle	3	—	2	100
Elizabeth Gregory	5	—	—	—	William Pinches	1	3	½	3
Robert Ellis	2	—	—	1	John Silveſter	14	—	2	—

* Cutting teeth.

To the Editors of the Medical and Phyfical Journal,

GENTLEMEN,

IF you are of opinion that the bad effects of a medicine merit as much obfervation in practice as its virtues, and think the following cafes and remarks are deferving attention, I requeft you to infert them in your very ufeful and impartial publication. They are a few out of many cafes of phthifis in which I had tried the power of fox-glove, but they are the only ones on which I could depend, from my actual obfervation of the progrefs and events.

I am, GENTLEMEN,

Your humble fervant,

BIRMINGHAM, *Oct.* 12, 1799. ROBERT BREE.

CASE I.—Mrs. B. aged 25, of a delicate habit and fair complexion, had long been difpofed to phthifis: the prefent ftate was preceded by hæmoptoe, which had frequently returned in the laft fix months. She has now all the fymptoms of the laft ftage, except diarrhœa; her pulfe between the exacerbations of the hectic fever is never lefs than 110. She came out of the country for my attendance, and I had feen her very frequently in the laft two months. May the 16th, I confulted with Dr. WITHERING* on the cafe as now ftated. We prefcribed pul. fol. digital. in pills with extract glycyrrhizæ, and directed two grains to be taken at eleven o'clock in the forenoon, and at five in the afternoon, with a faline draught. As her ftrength was greatly diminifhed, fhe was allowed fome porter and a meat diet. I was to vifit her as regularly as poffible, to mark the effect of this plan, and particularly its influence on the pulfe. May 17th her pulfe was 102—the 18th, 110—the 19th, 97—20th, 98—21ft, 96—22d, 92—23d, 87. She had been frequently harraffed with pains in her bowels, and fhe has now a tendency to diarrhœa, but without relief of pain. She has a total lofs of appetite, and her weaknefs is increafed. She has much averfion to medicine, but as the pulfe is retarded, Dr. WITHERING united his perfuafion to mine, and fhe promifed to purfue the pills as before. A mixture with chalk was prefcribed to be taken occafionally. May 24th, pulfe 88.—She has conftant anorexia, and

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* This excellent phyfician has fince paid the debt of nature, to the general regret of fcience, and the particular lofs of his medical brethren in this neighbourhood.

and frequent vertigo—her weakness is greater—her cough not less frequent—the hectic exacerbations as regular, and her sweats as profuse as ever. May 25.—She can no longer be prevailed upon to take the pills, but she has pursued them to this day—her pulse is 96—she has a sense of weight and oppression under the sternum, which before had preceded a great discharge of pus. May 26.—She throws up matter in large quantities, apparently from a new vomica. The next day her pulse rose to its former range, between 100 and 120—she would not consent to take any medicine except pills with opium after this date. In a fortnight she was so far recruited in strength as to be able to take a daily airing in a carriage for two or three hours, which practice she continued for a short time; she then returned to her home, and died with calmness in September.

Case 2.—Mrs. C. a married lady from the country, aged 35, sent for me to her lodgings in this town, July 20th; I found that she had spit blood in April, after having been long subject to cough and pain of the side; she had received much medical advice with little relief; she had now every confirmed symptom of ulcerated lungs, but there was considerable strength left, and the body was fleshy—hectic fever was, however, regular in its accessions—her expectoration was very profuse, particularly in the night. I was convinced that it was purulent, from repeated examination. In the middle of the day, when she was least feverish, her pulse was never below 110. In the night, her difficulty of lying down, and want of rest, distressed her greatly. I directed a tincture to be prepared with half an ounce of powdered fox-glove leaves in two ounces of proof spirit, and two ounces of water, and she was to begin with only ten drops, and increase the dose every six hours.

I saw her every day once, and frequently twice, but I never found her pulse less frequent than 100 in a minute. Aug. 2d.—She took nearly 40 drops with almond milk every six hours; her appetite had been growing worse every day—it is now so impaired that she is disgusted with all food—she pukes very seldom—her strength is greatly declined—occasionally she has less cough, but then her difficulty of breathing is increased—her spirits are depressed, and she has hysteric fits of crying: she has loose stools frequently, which lower her greatly. I now prescribed an infusion of myrrh and columbo root, with a more cordial diet. I directed her drops to be still taken, as she had never yet rejected them from her stomach. Aug. 5.—Her strength and appetite are not improved—she has more heat and fever; she is also affected with vertigo, and occasional

casional confusion of mind—the pulse at 108—120. Aug. 6.—She is to omit the farther use of the tincture, as her strength and spirits are rather worse, and the nervous system greatly affected. In the evening of this day she was carried to her bed, perfectly helpless. She soon after requested to be placed in the night chair—her attendant complied with her wish, and she immediately died. The waste of flesh was not found so great as is usual in the end of a consumption; and it might be inferred, that she would have lasted longer if the force of her disease had been her only opponent.

Case 3.—Mrs. H. between 40 and 50 years of age, has had many children, and been long phthisical—in addition she has frequent discharges of matter from an abscess in the perinæum. July 23.—I directed a tincture of fox-glove, as follows:—℞. Fol. digital. purpur. ʒij. spiritus vini ten. aquæ fontis a. a. ℥i. digere per horas 24. et cola.

She at first took fifteen drops of this tincture twice in the day, and afterwards increased the dose. July 30.—She takes 30 drops in a dose, but there has been no change in the pulse, nor in the accessions of hectic chills and heats—her cough is less frequent, and she rests better in the night: this good symptom has before taken place when the abscess in perinæo discharged, which is now the case. Aug. 8.—She takes 40 drops, without puking; but her pulse is never less than 100—her appetite totally gone—her strength diminished, and her cough as bad as ever. Aug. 14.—She finds no amendment of particular symptoms, and much less feeling of comfort. She removed into the country, taking no medicine, and died a few weeks afterwards.

Case 4.—William Harrison, aged 23, of a thin habit, and long disposed to symptoms of phthisis, was attacked with hæmoptoe a fortnight since, and spit blood five days. May 31.—His cough is frequent, with expectoration of frothy mucus, but no blood—he has a severe pain in his right side, and is often affected with rigors—he does not complain of succeeding heat or fever—p. 100. He was ordered to take two grains of pulv. fol. digital. every twelve hours, with a saline draught; a blister was to be applied to his side. June 10.—He has less cough, but the pulse is not retarded. I have seen him twice only since the 31st of May, but I have been assured that he has taken the medicines regularly. June 14.—Hæmoptoe returned—p. 120. June 19.—The spitting of blood ceased in two days—he has an acute pain in his left side—sickness and sometimes puking distress him—p. 120. His cough is increased, and the expectoration is more considerable—he has fever, with delirium, every night.

night. I thought myſelf no longer juſtified in purſuing the plan I had ſet out with, as he had taken above ſeventy grains of fox-glove, without any progreſs in removing pneumonia, or even hæmoptyſis.

CASE 5.—JOHN PAIN, aged 36, had been affected with phthiſis and hæmoptoe a year. He has a great expectoration of bloody pus, particularly in the night, with regular acceſſions of hectic fever—p. 120. June 28.—I directed a drachm of pulv. digital. to be made into 60 pills, and one to be taken every eight hours. After taking the whole number, his pulſe was not retarded, nor any bad ſymptom removed.

CASE 6.—GEORGE UNDERHILL, aged 28, affected with hæmoptyſis laſt year, with cough and pain of the ſide—his ſpitting of blood has recurred at intervals ever ſince, and has been conſtant for the last ten days—he has chills and heats, and night ſweats—p. 120. July 8.—I directed the tincture of fox-glove to be taken in cold milk and water twice a day. He purſued this till anorexia and weakneſs made him loſe all patience; in the mean time his diſeaſe advanced rapidly to the laſt ſtage, and I believe nothing ſtopped its progreſs, though I did not ſee him after he left off the tincture.

CASE 7.—MARY CLARK, aged 32, had been long in a confirmed phthiſis—ſhe had had much advice before ſhe came to me, without benefit—ſhe has no diarrhœa, but every other bad ſymptom. July 10.—I directed the tincture to be taken twice a day. July 12.—She complains of unuſual pain and flatulence in the ſtomach and bowels—I directed pilul. galban. compoſit. to be taken twice a day with chamomile tea. July 17.—Her pulſe is 100—ſhe complains greatly of general weakneſs, anorexia and flatulence—ſhe is always cold—her cough is as bad as ever, but her hoarſeneſs is leſs. July 19.—She is now affected with heats as well as chills—p. 100; ſhe is to continue the tincture, and to take it with a ſaline draught. July 24.—She cannot force herſelf to take any nutriment but tea, and ſuch weak fluids—her weakneſs is extreme, and ſhe attributes it in great meaſure to want of food—ſhe has looſe ſtools—other phthiſical ſymptoms are not removed or leſſened. July 31.—Nothing more favourable having appeared in the caſe, I ordered other medicines.

CASE 8.—Mrs. MOWSLEY, aged 35, has confirmed phthiſis with every bad ſymptom except diarrhœa—it followed hæmoptyſis ſeven months ſince. Sept. 2.—I directed powder of fox-glove to be taken

every

every eight hours in doses of one grain and a half each. She pursued this plan with great punctuality till Sept. 12, but her pulse has not been retarded, nor one bad symptom removed. At this date her debility and loss of appetite were so great that I directed a myrrh mixture with tincture of opium to be taken as well as the digitalis. After continuing these medicines a few days longer, without any good effect, she resigned herself to her fate, which is certain, if not yet arrived.

STATE OF DISEASES IN LONDON,

From the 20th of September to the 20th of October 1799; *being the result of the public and private Practice of a Physician at the West End of the Town.*

	No. of Cases.		No. of Cases.
ACUTE DISEASES.		Hydrocephalus - -	2
Contagious malignant Fever	13	Dyspepsia - - -	16
Measles - - - - -	5	Gastrodynia - - -	10
Small-pox - - - -	2	Entrodynia - - -	6
Scarlet Fever - - -	1	Diarrhœa and Bilious Vomiting - - -	14
Hooping Cough - -	6	Menorrhagia - -	4
Catarrh - - - - -	13	Chlorosis and Amenorrhœa	7
Acute Rheumatism -	2	Ischuria - - -	1
Ophthalmia - -	3	Enuresis - - - -	1
Hæmoptoe - - -	1	Fluor Albus - -	3
Intestinal Hemorrhagy -	1	Cancer - - - -	1
Slow Fever - -	1	Tabes Mesenterica - -	2
Hectic - - - - -	3	Worms - - -	2
Childbed and Milk Fevers	5	Hernia - - - - -	2
Acute Diseases of Infants	11	Prolapsus Uteri - -	1
Erysipelas - - -	1	Scirrhus of the Liver - -	1
Enteritis - - -	1	Jaundice - - -	1
Cholera - - -	1	Stricture of the Æsophagus	1
CHRONIC DISEASES.		Itch - - - -	6
Cough and Dispnœa -	20	Prurigo - - -	2
Phthisis pulmonalis -	8	Nettle Rash - - -	2
Chronic Rheumatism -	5	Shingles - - -	1
Asthenia - - -	24	Impetigo - - - -	1
Dropsy - - -	6	Acne - - -	1
Scrophula - - -	3	Lupus - - - - -	1
Cephalœa - - -	8	Erythema - - -	2
Hysteria - - - - -	2	Porrigo - - - -	5
Epilepsy . - -	1	Thrush - - -	4

Account

Account of Diseases in an Eastern District, from the 20th of September to the 20th of October.

	No. of Cases.		No. of Cases.
ACUTE DISEASES.		Dysenteria - -	6
Typhus Mitior - -	5	Cholera Morbus -	4
Peripneumonia - -	2	Hæmorrhois - -	2
Hæmoptysis - - -	2	Colica Pictonum - -	3
Quotidian - - -	2	Menorrhagia - -	4
Acute Rheumatism - -	4	Amenorrhœa - -	5
CHRONIC DISEASES.		Chlorosis - - -	7
Cough - -	14	Dysuria - - -	5
Dyspnœa - -	8	Hysteria - - -	6
Cough and Dyspnœa -	12	Hypochondriasis -	5
Phthisis Pulmonalis -	6	Psora - - -	1
Hydrothorax - -	2	Prurigo - -	3
Pleurodynia - -	3	PUERPERAL DISEASES.	
Palpitatio - -	2	Low Fever - -	3
Leipothymia - -	1	Ephemera - - -	4
Cephalœa - - -	5	Mastodynia - -	7
Vertigo - -	3	Menorrhagia lochialis -	4
Epilepsia - -	2	INFANTILE DISEASES.	
Apoplexia - - -	1	Hooping Cough - -	5
Paralysis - -	2	Measles - - -	8
Dyspepsia - -	7	Ophthalmia - -	3
Gastrodynia - -	5	Ophthalmia purulenta -	2
Diarrhœa - -	13		

Diseases admitted under the care of the Physicians of the Westminster Hospital, from the 20th of September to the 20th of October.

Fevers - -	10	Erythema - -	2
Scarlatina - -	2	Gastrodynia - -	3
Small-pox - -	1	Hooping Cough -	1
Amenorrhœa - -	6	Hæmoptoe - -	1
Anasarca - -	5	Hysteria - -	1
Ascites - - -	2	Impetigo - -	3
Asthenia - -	1	Itch - - -	3
Asthma - -	1	Leucorrhœa - -	2
Catarrh - -	1	Lumbago - -	2
Cholera - -	2	Phthisis - -	2
Colic - - -	1	Pleurodynia - -	3
Cough - -	8	Rheumatism - -	9
Cephalœa - -	3	Struma - - -	4
Diarrhœa - -	8	Vomiting - - -	2
Dysentery - -	2	Worms - -	2
Enterodynia - -	1		

The tincture of digitalis, according to Dr. MACLEAN's formula,* has been employed in hæmoptoe and phthisis with evident diminution of the expectoration; but we have not yet seen any case in which it has effected a cure of phthisis.

* Vide Journal, No. vii. p. 122.

The

The following Lift of Deaths is given by the Bills of Mortality for the laft Three Months.

Abfcefs - -	4	French Pox - -	3
Abortive - -	7	Gout - -	16
Aged - -	226	Hooping Cough -	47
Ague - - -	1	Jaundice - -	22
Apoplexy - -	16	Inflammation - -	99
Afthma - -	70	Lunatic - -	23
Cancer - -	8	Meafles - -	51
Childbed - -	22	Mortification - -	55
Colic - -	3	Palfy - -	35
Confumption - -	972	Pleurify - -	2
Convulfions - -	785	Rupture - -	5
Croup - -	2	Small-pox - -	161
Dropfy - - -	217	Still born - -	91
Evil - - -	2	Suddenly - -	31
Fever - - -	334	Teething - -	44
Flux - - -	3	Water in the head -	21

The difeafes taken notice of in the laft report ftill continue to prevail. Diforders of the bowels are very frequent, and, in fome inftances, obftinate. In moft of the cafes they conftitute the principal difeafe; but in fome few, they blend themfelves with other difeafes of the fyftem. In addition to the diarrhœa and dyfentery, which were mentioned before, fome cafes of cholera morbus have occurred. Several perfons in one family were affected by it at the fame time; the fymptoms, however, were mild, and a recovery was foon obtained.

The hooping cough and meafles have prevailed amongft children; but have not in general been attended with any formidable fymptoms. The number of inftances in which the former of thefe difeafes has proved fatal, as ftated in the lift of deaths given by the Bills of Mortality for the laft three months, as annexed to this Report, forms a pleafing comparifon with the account of the fame period in the laft year. In the months of July, Auguft, and September, 1798, 104 fell a facrifice to this difeafe. In the fame months of the prefent year only 47 died.

Mr.

Mr. SAUMAREZ *on Generation and the Principle of Life.*

[Continued from p. 242—247 of our laſt Number.]

THE fact is proved by the pollen of vegetables, by the ſemen and ova of fiſh, and of the amphibia which I already ſtated. Being ſolicitous to ſee what change the ovaria underwent by the power of œſtrum alone, I took a female rabbit that had the œſtrum upon her, and had her fed upon oats, beans, cellery, and other kinds of food which the rabbit-keeper told me had the ſtrongeſt tendency to increaſe that ſtate. I had her placed before a buck; they were allowed to careſs each other whilſt abſolute union was prevented; I purſued this plan for a week, and at the time that the œſtrum was at its higheſt pitch, ſhe was killed. On examining the different organs ſubſervient to the proceſs of generation, I found them very different from what they are in a common ſtate.—The external membrane by which the vagina is lined was ſwelled and diſtended, and had acquired a black mulberry colour; on examining the uterus, I found its colour had undergone an equal alteration; it was of a purple hue, evidently ariſing from a præternatural quantity of blood that had been determined upon it. There was a large veſſel running up the middle of both fallopian tubes, enlarged to a conſiderable ſize, and completely diſtended with blood. The tubes before their termination at the fimbriæ were torquated and diſtorted in an extraordinary manner, having alſo a ſtrong periſtaltic motion—after running a ſhort way above the ovaria, they bent downwards, terminating by a fimbriated expanſion above the ovaria, a conſiderable portion of which they involved and encloſed. The ovaria appeared to have undergone a conſiderable degree of alteration alſo; the ova which the ovaria contained were ſwelled, and evidently more diſtinct than is uſual, reſembling in ſome degree the ſeed reſident in the pericarpium of a ripe grape. Although it appeared very clear that ſome action had taken place in theſe parts, there was nothing like a ſeparation from the capſule, as we obſerve in the ovarium of the hen, from the effect of œſtrum alone, (without ſexual union.) Œſtrum alone therefore produces an evolution of the ova to a limited degree; it however appears from ſome experiments that were made by Mr. CRUIKSHANK and Dr. HAIGHTON, where one of the fallopian tubes of a rabbit had been divided and obliterated, and the other left perfect and entire, and ſexual union allowed, that the encreaſed excitement which the female had undergone was ſufficient to evolve the ova completely, and ſeparate them from the ovaria

Although there were ova ſeparated from the ovarium in the mutilated as in the perfect ſide, there was this grand and ſtriking difference between both. In the perfect ſide where the ſemen could have acceſs to the ovarium, there were fœtuſes found as uſual; on the mutilated ſide quite otherwiſe, there was not the leaſt trace of a ſingle fœtus to be diſcovered. Although there was not a ſingle fœtus to be diſcovered in the mutilated ſide, both ovaria diſplayed the ſame appearance; the ova which the ovaria contained, I ſay, became equally evolved, the external tunic in both had burſt, and ſeveral of the ova in both were diſcharged. The veſicles from whence the ova were diſcharged were conſequently left hollow, their parieties or ſides gradually thickened; and theſe thickened calyces conſtitute what Anatomiſts have called *corpora lutea*. The exiſtence, therefore, of *corpora lutea* is a proof that the ſexual act has been ſo far perfect as to produce this action within the veſicles; and that although it can take place without the application of ſemen to the ovaria, fœcundation is abſolutely prevented without its palpable application. The concluſion therefore preſſes itſelf upon the mind with force irreſiſtible, that, *the exiſtence of corpora lutea is not the true and infallible teſt of animal impregnation*. It is not more the teſt of animal impregnation, than when we behold unfœcundated eggs expelled from the female of oviparous animals in general; in them, the ſeparated part of the membrane is left jagged, and is exactly analagous to the corpus luteum of the higher order of animals.

If male and female fiſh, of the ſame ſpecies, are ſeparated from each other, although the ſpawn will be ſhed, fœcundation will be effectually prevented. If birds that uſually copulate together, are cooped up ſeparate, although the eggs will evolve and be depoſited, they will be totally different from what we find when the ſexual act has been accompliſhed: in the one caſe, they become putrid without being prolific; in the other, they become prolific without being putrid. Although the ſhell of a perriwinkle and the hide of a buffalo are different in their ſtructure, they are deſtined to the ſame uſe, ſerving to protect from the operation of external cauſes the internal organization of the animal to which it is ſubſervient. We have no difficulty in admitting, that the cornuated uterus of a rabbit is deſtined for the ſame purpoſe as the oval uterus of the human ſpecies, the oviduct of a hen for the ſame purpoſe as the fallopian tube of a woman; muſt it not then be allowed, that the ovaria of the one are in nature the ſame as the ovaria of the other? and that ſince fœcundation cannot take place without the application of ſemen to the ovaria, although *corpora lutea* do exiſt, that the preſence of theſe is not the teſt by which we are to judge that fœcundation has actually

tually taken place? The only certain teſt we can have that animal fœcundation has taken place, is by the actual exiſtence of one or more fœtuſes. It is not an effect produced from the energy of a power reſident in one ſyſtem or in one ſex, but in two ſyſtems of different ſexes; not in the male or female individually, but from the united action of both male and female together.

From the various facts I have ſtated, I think we are warranted in concluding,

1ſt. That the act of ſexual intercourſe is the immediate cauſe, by the power of which the ſeveral organs in the male and female are made to undergo their ſeparate although correſpondent changes.

2d. In the male the ſpecific power of the teſtes is excited, and ſemen in conſequence produced; which ſemen is the immediate agent that contains the characteriſtic properties of the maſculine ſyſtem, and is conveyed from the vagina of the female through the uterus, and received by the fallopian tubes. In the female, the increaſed vaſcularity not only of the vagina but of the uterus and tubes, proves the capacity these parts poſſeſs of ſympathizing with the ſexual organs of the male.

3d. That the fallopian tubes conſtitute the media of communication to convey the ſemen from the uterus to the ovaria, which they do by means of the periſtaltic power which theſe tubes ſo eminently poſſeſs; that in proportion as the evolution which the ova ſuſtain (in the veſicles of the ovaria) a correſpondent change takes place in the fimbriæ; that the fimbriæ progreſſively graſp the ovaria, and immediately apply the ſemen to the ova; that by the union of both, fœcundation takes place, and which conſtitutes the proximate cauſe of animal impregnation.

In order to put ſo difficult a ſubject in as clear a point of view as I am capable, I ſhall ſtate it in different words, viz. the different changes which the ſeveral parts in the male and female undergo, all tend to one end, namely, the immediate contact of the fimbriated extremity of the fallopian tubes to the ſurface of the ovaria; that an union might take place between the fluid which the fimbriæ convey, and the ova (of a mucus-like appearance) which the veſicles diſcharge; that it is the ſemen which communicates the characteriſtic properties of the male; and the fallopian tubes, the medium by which it is conveyed, in the ſame manner as the fluid which the veſicles diſcharge, contain and convey the characteriſtic properties of the female;—that the fimbriated extremity of the fallopian tubes, is the immediate ſeat where this effect takes place; that the union of both conſtitutes *conception*, or the immediate reception of

of a *living principle*, in which the ſource and power of action eſſentially reſides, and which participates the nature of both parents, by the combined action of whom it was produced.*

It is not the farinaceous matter of which a ſeed is compoſed, the animal gluten with which an egg is filled, or the atom of mucus in which the primordia of the embryo are contained, which conſtitutes the power by the energy of which organization is elaborated and action ultimately produced; each of theſe bodies is a chaos in all its parts, a *rudis indigeſtaque moles*; the mere matter of which they are compoſed, when deprived of this living principle, undergoes the uſual changes of decompoſition and decay, by the proceſſes of putrefaction and fermentation, and yields nearly the ſame materials by chemical analyſis.

It is the living principle which the ſeed of vegetables and the fœcundated ova of animals contains, that conſtitutes the architect by which the machine is erected; it is the baſe on which the whole ſtands, it is the bond of its elementary parts, the cement that unites them in one whole; —it is the efficient and primary cauſe from whence the individuality of every ſyſtem ariſes, and in which the form it aſſumes eſſentially reſides;—it conſtitutes the power by which the human ſpecies differs from the brute, the brute from the vegetable, the vegetable itſelf from formleſs and inanimate matter;—it is the power by which formleſs and inanimate matter is converted into organs living and active, ſo that the various ſpecies of food which the vital power receives, are nothing more than the raw materials applied to it;—it is the manufacturer that converts theſe materials, without power, or intelligence into different ſyſtems—through which the acorn becomes evolved into an oak, the infant foliage expanded into leaves, and the final cauſe of vegetable exiſtence attained;—it is by virtue of a power in eſſence the ſame, though in character different, that the embryo of animals becomes evolved out of matter in kind the ſame, and models a ſyſtem conſiſting of organs and of fluids in

* That fœcundation takes place either at the extremity of the fallopian tube, or in the very calyx itſelf, which is formed by the action of the veſicle after the ſexual act, is not only very probable, from the appearance which the parts diſplay, but the probability is greatly increaſed from the adventitious circumſtances which ſometimes happen, when a fœtus is found reſident either in the ovarium, or attached to the fimbriæ, or lodged within the body of the tube itſelf; or, what perhaps leſs rarely happens, when the embryo drops from either of thoſe ſituations, and becomes attached to ſome part of the abdominal cavity: Theſe are called extra-uterine caſes in general, each caſe receiving the particular denomination from the particular part in which it is found, as, abdominal, ovarial, fimbrial, and fallopial.

in their kind and operation totally different; and, finally, it is through the participation of this living power, which the organs and fluids have received, that they become the inftruments or means by which it accomplifhes the final caufe of its exiftence:—*Life* may therefore be defined—*the principle (i. e. the efficient and primary caufe) by the energy of which various fpecies of matter are converted to one kind, under one fyftem, fo that the matter thus converted poffeffes the power of refifting the operation of external caufes, and of preferving itfelf from putrefaction and decay.* It is to this power, I fay, by the energy of which every living fyftem is protected and preferved from decompofition and decay, and by which the different fubftances it receives are affimilated and changed, that I attach the idea of life.—The Vis Medicatrix Naturæ of Stahl, the Vis Vitæ of Haller, the Nifus Formativus of Blumenbach, the Living Principle of Mr. Hunter, the Excitability of Dr. Brown, and, finally, "Form," by that excellent philofopher Mr. Harris:—The Principle of Life, therefore, as a caufe, may be contemplated in the abftract, as feparate and diftinct from the matter into which it is received, and through which its actions are produced; it is by the evolution of the living principle which animated beings poffefs, from a ftate of *dormant capacity* into energy and action, that they are capable of converting to their own nature, the various fubftances on which they feed, and of making them affume the organization and form of the fyftem to which they are applied. Bread of the fame precife quality, cut from the fame loaf, or water drawn from the fame brook, given to a man and to a dog, after having been digefted by the ftomach of both, will contribute to the particular organization of each refpective fyftem. We behold a multitude of vegetables placed in the fame medium, nourifhed and fed by water and air, in kind the fame, and yet affuming an organization and form totally different.

If the power of organization and of life therefore refided in the food, every vegetable and every animal that fed upon the fame materials would be fafhioned and modelled alike; for in all chemical changes the fame caufe uniformly produces the fame effect.—If it depended on a chemical caufe, the changes which the food fuftained would be regular and conftant, the chyle produced, inftead of being the fame, would be generally different; it would vary in its properties according to the peculiar nature of the fubftances out of which it was formed; and, finally, if it depended on the mutual action of different parts of the food upon each other, independant of the digeftive power of the organ itfelf, the change it fuftained, like other chemical changes, would be conftant

and

and definite, and not liable to the remiſſion we witneſs during the proceſs of digeſtion;—it is therefore lawful, and we are from neceſſity, led to conclude, that the commutation food obtains in the living ſyſtem, is a vital and not a chemical act; and that the efficient cauſe of this commutation does not ariſe from any active property which the food contains, but is owing to the vital power of the ſyſtem in which it is received, and by which the new arrangement of its parts is formed; it is with a view of deſtroying theſe ſenſible qualities which different living ſyſtems receive, that their aſſimilating organs are eſſentially deſigned; they are deſigned to reduce ſubſtances of different kinds to one, that this one ſubſtance may be in harmony with the ſyſtem, that it may be fitted for being acted upon, and converted by the ſpecific power of different organs into various ſhapes; the aptitude therefore of the matter which every living ſyſtem receives, can only ariſe out of its weakneſs or total privation.—It is in this deſtitute ſtate that we ſay matter is imbecile and inert, a mere *tabula raſa*, that has the aptitude of being acted upon without the power of reſiſting action; that has the power of being changed without the power of changing; of being modelled without the power of modelling, &c. it is thus that we can appreciate the dire ignorance of thoſe materialiſts, who ſuppoſe that matter can convert *itſelf* into different organs, in fabric moſt delicate, in action moſt extenſive, in form moſt diverſified; that by the congregation of theſe organs a whole ſyſtem is conſtituted; that the reſult of this organization is life, and out of this organized life, action and motion are produced, ſo that matter is the efficient cauſe, and life the effect only.

Equally abſurd is the opinion of thoſe pure defecated philoſophers who ſuppoſe that the oxygenous matter which vegetables in the day are conſtantly diſcharging from the whole external ſurface of their foliage as urinous and dead, conſtitutes the principle of life, in which all power eſſentially reſides—the immediate and proximate cauſe of irritability in man!

With ſtill greater reaſon are we to deplore the Brunonian ſyſtem, which proclaims life to be a *forced*, not an original ſtate—that makes life the effect of action, inſtead of action the effect of life—that makes life to come out of the body inſtead of reſiding within it!—*that makes this action, or excitement, in which the true cauſe of life conſiſts, the effect of the exciting powers acting on the excitability!* &c. &c.

Of

Of the Intentions of Cure in Hydrocephalus.

[Continued from p. 258—261 of our laſt.]

THE remedies which have been moſt commonly reſorted to for the cure of this complaint, are, mercury, internally, as calom pp. ; and, externally, by aborption, as, ungt. hydrargy, F. ; bliſters applied on the head, bleedings by leeches, and ſcarifications, ſquills, opium, fol. digit, pur, calx zinci ; and lately, the fol. doron German, or German leopard's bane.

Of the firſt of theſe remedies, notwithſtanding the reſpectable evidences of Drs. CARMICHAEL SMITH, DOBSON, QUIN, PERCIVAL, LETTSOM, JOHN HUNTER, HAYGARTH, MOSELY, and ARMSTRONG, other phyſicians and ſurgeons of eminence have not been ſo ſucceſsful in the uſe of it. Salivation is not very eaſily raiſed in young children, eſpecially in this diſeaſe.* In regard to veneſection, either local or general, it is much to be regretted, that neither from the teſtimonies of authors, nor from any obſervations hitherto made, are we led to determine on its uſe. From Dr. QUIN's view of the complaint, we ſhould be led to aſcribe more to inflammation, than what appears to *me* to be the real ſtate of the diſeaſe, and, conſequently, ought to make us very cautious in the uſe of blood-letting, even in the primary ſtage ; for the veſſels of the brain ſeem quickly to loſe their tone by diſtenſion, and great atony and torpor of the whole ſyſtem ſucceed. If depletion, therefore, be indicated, it will be beſt accompliſhed by occaſional mercurial purgatives, bliſters in the direction of the ſutures, &c. &c. Practitioners know, that inflammation is often found to exiſt in relaxed habits, excited and kept up by the irritation of ſome peculiar acrimony, totally contrary and independent of any inflammatory diatheſis, as in ſcrophula, lues venerea, &c. &c.

The remedies which I place my chief reliance on, are as follow ; arranged in the order in which they will be wanted.

Calomel ppt., to empty the bowels. The form I preſcribe to a child of four years of age is this :

℞ calom ppt. gr. iij, opii gr. ß. cretæ ppt., gr. vi m. ft. pulvis h. s. ſumendus.

Blood-letting.—Leeches applied to the temples, and in a direction

* Dr. MICHAEL LEIB relates the caſe of a child, who took 112 grs. hydrar. muriati mitis in 16 days, with a hydrocephalus.

with

with the ſutures; v. ſectio; to be repeated pro re natâ, in the firſt ſtage of the diſeaſe.

Bliſters.—Cut in ſtrips, about three quarters of an inch broad, and laid over the ſutures, the head being previouſly ſhaved. Alſo to be applied to the head, neck, and between the thighs.

To mitigate the pain and ſpaſm—
Opium and digitalis combined.

In caſes of ſtupor, coma, &c.—
Sal. c. c. vol. ſp$^{ts.}$ ætheris vitr. comp. muſk, and camphor.

To promote abſorption—
Tinctura cantharid. calx zinci, hydrar. mur. mit.; electricity, ſlight ſhocks paſſed in various directions through the head every four or ſix hours.

As an univerſal ſtimulus—
Oxygen-gas, diluted with atmoſpherical air.

A generous diet ſhould be enjoined to invigorate the ſyſtem and alimentary canal in particular.

When the bowels are obſtinately coſtive, and there is a paucity of urine, I give the following:—
℞ Scillæ pulveris rec$^{t.}$ g$^{r.}$ iij opii purif. g$^{r.}$ ß; calomel pp$^{t.}$ g^{r} ij M. f. pulvis capiat bis vel. ter die.

Laſtly, to ſtrengthen the conſtitution, and prevent the re-accumulation of fluid, by giving the following medicine:—
℞ decoc$^{t.}$ cinchonæ, ℥ vij; tinc$^{t.}$ cantharid. ʒ ij tinc$^{t.}$ cinch. comp. ℥j M. f$^{t.}$ mixtur capiat cochl. iij larg, ter die; for a child eight years of age.

I have been led to give the tinctura cantharidis in this complaint, from frequent experience of its efficacy in ſome caſes of paralyſis, and from reading a paper on its uſe in theſe caſes, by my friend Dr. May, in ſome late publication. I have found it an excellent ſtimulus. I principally attribute the good effects of this medicine in hydrocephalus internus, to the general ſtimulant operation, and to the tendency it has of producing a determination to the ſkin; and to augment and diffuſe the energy of the brain through the remoter extremities of the body; by joining the bals. Peruv. as below, with it, its virtue ſeems increaſed.

℞ bals.

℞ bals. Peruv. ℈i. vitelli ovi q. s. aq. menth. pip^s. ℥vj. ſacch. alb. ℈i. tinc^t. canth. g^{tt.} xxiv. M. f^t. hauſt, bis die capiendus. Doſis tincturæ cantharidis in præſcripto noviſſimé hauſtu ad gutt. xxxvi augeatur.

The appearances on diſſection are, water collected in greater or leſs quantity, with the fornix in the former caſe raiſed at its anterior extremity, in conſequence of its accumulation; and an immediate opening of communication is thereby formed between the lateral ventricles. From this cauſe too, Dr. Bailey obſerves,* a part of the water paſſes very readily into the third ventricle, and from thence into the fourth. To aſcertain with any degree of preciſion whether children have had an accumulation of water in the brain, who have been ſuppoſed to have died of hydrocephalus internus, it is neceſſary their heads ſhould be opened immediately after their deaths. It appears to me, that in many of the caſes related by Bonnetus,† ſome deception might have ariſen from a delay in opening the heads of many of his patients who died of an accumulation of water in the brain; for, independent of diſeaſe, I have found that the longer after death diſſection is performed, the greater is the quantity of lymph; and Sauvages has noticed the ſame. He thus expreſſes himſelf ſomewhere: Nihil vulgatius quam ſerum in ſinubus cerebri reperiri, ſi longò poſt mortem tempore aperiatur cadaver: quò longius, eò uberius invenietur ſerum.

Such inquiries, however, muſt be purſued under proper reſtrictions, and we ſhould with caution draw our concluſions, when we obſerve parts in a morbid condition, which we had no reaſon to ſuſpect to be diſeaſed from the ſymptoms or complaints which aroſe during the patient's illneſs. Some may, perhaps, be produced in *articulo mortis*; and others may have been the effects of a former diſeaſe, which nature, or ſtrength of conſtitution at that time, happily overcame. Hence we ſhould endeavour minutely to acquaint ourſelves with the riſe and progreſs, effects and ſymptoms of the diſeaſe, during the patient's illneſs, that, by conſidering them with the conſequences produced upon the animal œconomy, we may fix the nature of the diſeaſe upon true and juſt principles. An inattention in this reſpect has frequently confounded and miſtaken effects for cauſes, and aſcribed appearances to complaints they were no ways concerned or connected with.

* Morbid Anatomy, p. 440.

† Bonneti Sepulchretum Anatomicum.

An Account of the Spontaneous Discharge of Water through the Navel, in a Case of Dropsy, by JOHN PEARSON, *senior* Surgeon *of the* Lock Hospital *and* Asylum, *and of the* Public Dispensary; *Reader on the Principles and Practice of Surgery.*

IN the month of June 1783, I was desired to visit Mrs. H. who was afflicted with a dropsy; she was forty-five years of age; the catamenia had ceased to appear during a few months, and she had lately become very corpulent. The operation of the paracentesis was the only probable mean of relieving her; but she was extremely averse to it, and continued to take various medicines till the month of September, when being much increased in size, and suffering great uneasiness, she consented to undergo the operation.

On examining the abdomen, I found on the left side, a large, hard, moveable tumour, which determined me to puncture the right side, and I drew off eight quarts of a greenish coloured water. She took the the usual medicines, to prevent if possible a second collecting of the fluid; the remedies however proved ineffectnal, and it became necessary to repeat the operation, at the latter end of December. About two gallons of a greenish water were again discharged; the tumour was much larger than in September, and it gave her so much trouble, that she found it very inconvenient either to walk or to sit.

Mrs. H. being anxious to avoid a repetition of the operation, by the advice of a female friend, applied a plaster of frankincense, large enough to cover the greater part of the abdomen. In the course of a few days, the navel acquired an unusual sensibility, and water was perpetually oozing from under the plaster; so that it became necessary for her to wear a sheet folded several times, in order to absorb it. The plaster was renewed once a week, and the water continued to flow through the navel; the discharge was not constant, but returned every five or six days, and from one to two pints was evacuated each day, during two, and sometimes three days successively. She complained that these periodical discharges of water produced great languor and feebleness; but they evidently prevented the accumulation of fluid in the cavity of the peritonæum. On examining the umbilicus, I found it very red, large, and prominent, resembling a raspberry on its external surface; and a great number of minute orifices could be distinguished, through which the water proceeded, as from a sponge. Mrs. H. was regularly

regularly relieved by this periodical evacuation of the water, from the latter end of December 1783, to the middle of March 1784; and during this period, she gained no addition to her size; but having become weary of the attention which this state of her disease required, by the advice of her apothecary, she discontinued the plaster, and washed the navel with port wine, in which a quantity of oak bark had been infused. This lotion restrained the discharge of water completely, nor could it ever be restored afterwards by the repeated application of the frankincense. From this period the water began to distend the abdomen, and on May the 11th I repeated the operation, and discharged twelve pints of a coffee coloured fluid, with a large bason full of jelly-like substance, mixed with pus. Her strength was at this time greatly reduced, and she only lived to the beginning of June. I was not permitted to open the body. The extraordinary effects which followed the application of frankincense in this instance, induced me to advise a trial of it in several cases of the ascites; but I have never seen the least advantage derived from the plaster to any patient since that time.

GOLDEN SQUARE, *September* 17, 1799.

Observations on one of the Means by which the Eye has been supposed to accomodate itself to the different Distances of Objects.

IN the late publication of Dr. MONRO on the brain, eye, and ear, after enumerating several means by which the eye accmomodates itself to the different distances of objects; he concludes by pointing out one of the means which had been overlooked by authors, and which we employ when we view minute objects near the eye. This, he observes, occurred to him from the circumstance, that when we view minute objects near the eye, we are sensible that we bring the upper and under eye-lids nearer to each other, and then, by a considerable exertion, contract the parts about the eye. The effect produced, to wit, the seeing more distinctly, he attributes to the orbicularis muscle of the eye, by its pressure, making the upper and under parts of the cornea somewhat flatter, and of course protruding the middle part of the cornea between the edges of the eyelids, so as to render it more convex. Hence the refractive power of the eye is increased, and the pencils of rays which would have united beyond, are made to unite upon the retina. Dr. MONRO conceives his opinion confirmed by three experiments, which he made for the purpose of discovering whether or not it was well founded.

In

In the 1st, he placed his eyes so near a small printed book, placed opposite a window, as that the letters appeared indistinct. He found he could neither read the book when he kept the eyelids in their ordinary state, nor when he opened them wide.

But in the 2d experiment, on acting with the orbicularis palpebrarum, so as to bring the eyelids within a quarter of an inch of each other, and making an exertion to read, he found he could see the letters and words distinctly.

And in the 3d, instead of employing the muscular contraction of the orbicularis, when he brought the eyelids within a quarter of an inch of each other, by means of his fingers, and then stretched the edges, so as to make a pressure upon the cornea, he found the letters appear distinct. He concludes by observing, that there can be no doubt of this action of the orbicularis producing the effect he attributes to it, as the distance of the eye from the object and the quantity of light were the same; as no part of the pupil was covered by the eyelids, so as to cut off the most diverging rays; and as the object appeared confused when the orbicularis was not contracted, but distinct on its contracting.

These experiments, however, do not appear to me to prove the point which Dr. Monro endeavours to establish. It is true, indeed, (as he remarks in the beginning of his Observations) that when we view small objects near the eye, we bring the upper and lower eyelids nearer each other, and by a forcible and rather painful exertion, contract the parts about the eyes. But these, I apprehend, we put in practice for a very different reason from that which Dr. Monro assigns.

When a small object is near the eye, some of the rays which proceed from every point of the object, and fall on every point of the cornea, are so oblique, as to be unable to be brought into a focus on the retina, by the refractive powers of the humours of the eye. Hence the object is confused: but if by means of a small hole in a card, interposed between the eye and the object, the more diverging rays are cut off, and those only which are less oblique, allowed to reach the eye; then the humours are able to effect the proper degree of refraction, and the object appears distinct. Upon this ground, I conceive an explanation of the doctor's experiments may be given: Some of the rays from the printed book fall too obliquely upon the cornea, to suffer the proper refraction. On bringing the eyelids, however, nearer each other, these superfluous rays were cut off, and the object appeared more distinct: but in Dr. Monro's experiments, it is said, that no part of the pupil was covered by

by the eyelids, so as to intercept the diverging rays, which might tend to render the object confused. When the experiments are repeated, however, it will be found necessary for the eyelids to be considerably within a quarter of an inch of each other, to render the object more distinct, and that the distinctness is greater, if part of the pupil be covered by the eyelids.

But though the pupil should not be at all covered by the eyelids, their being brought nearer each other than they usually are, will have a tendency to intercept oblique rays; since the refractive power of the cornea and aqueous humour can make rays enter the pupil which fall upon the cornea, beyond that part of it which answers to the pupil in dimensions.

With regard to the exertion we make in viewing a minute object, and the contraction we produce in the parts about the eye, which Dr. MONRO considers as proofs of the forcible action of the orbicularis, they seem to depend,

1st. Upon the necessity there is that the optic axes should unite in an object before we can have distinct single vision. And to produce this both eyes must be turned considerably inward, in viewing a minute object near the eye, which requires a painful exertion of the muscles of the eye-ball, certainly referred by us to the internal parts.

2d. Upon the action of the muscles of the eye-ball in increasing the convexity of the cornea, by pushing the aqueous humour forwards, which Dr. HOSACK and Mr. HOME have proved to be the usual method in which the eye accommodates itself to different distances, and to which Dr. MONRO imagines the action of the orbicularis is added.

3d. Upon the support which the neighbouring muscles when contracted give to the eye and its muscles, the continued action of which soon becomes painful.

Besides the circumstance that a considerable degree of pressure would be necessary to produce an alteration in the convexity of the cornea, such as the orbicularis does not seem able to give upon so firm and thick a membrane as the cornea, and which we should certainly feel if it were able to give it; I would observe, that simply bringing down the eye-lids with the fingers without stretching them, or without acting at all with the orbicularis, renders vision more distinct; and here it is evident, that there can be no such pressure as that for which Dr. MONRO contends.

To all these I would add, that myopes, or short sighted people, who have the refractive power of their eyes too considerable, almost always, in viewing an object, make the eye-lids approach more than the long-sighted, or those with vision in a healthy state; which should, according to the opinion of Dr. MONRO concerning the action of the orbicularis, increase the refractive power of their eyes, and consequently render their vision more imperfect, which by experience it is not found to do.

I. Y.

Analysis of the "Institutions of Practical Medicine, delivered in Lectures, by JO. BAPT. BURSERIUS DE KANILFELD," in Latin, 4 Vol. 8vo. Leipzig, 1798.

WE have just received a copy of the last edition of this truly valuable, and hitherto, in England, scarce work. We are sorry to observe, that the author did not live to complete his design, for the fourth volume, which was published after his death, concludes with the diseases of the abdomen. But before we commence any account of the work itself, we shall gratify our readers with such information as we have been able to procure respecting the medical character of the author. BURSERIUS was born at Trent, of an honourable family, and received his first rudiments of medicine from Felix Perger. He studied at the University of Padua for some time, and then removed to Bologna, where he devoted himself to the study of medicine under Laghi, Azzoguidi, Laurenti, Beccaria, and others. Here his progress was so rapid, that Bartholom Beccaria conceived the most flattering expectations of his future eminence; these expectations were more than realized. By the advice of Beccaria he settled as a physician in Fayence, where he continued to practise near twenty years, with every honourable mark of the approbation of his fellow citizens, and many princes of the sacred Roman empire, as, BARNI, CRESCENTI, SERRA, BOLOGNETTI, ODDI, STUPPANIO, BORROMEO, and the Popes CLEMENT XIII. and XIV. the former of whom distinguished him by many honourable privileges, and the latter appointed him Professor of Medicine in the restored University of Ferrara. In this situation it is incredible what numbers of patients applied for his advice, both personally and by letter, not only from the adjacent but the most distant states of Italy, and even how many physicians of great reputation requested to meet him in consultations. By these means, and the frequent mention made

made of him by medical authors, his fame increased daily, till at length Charles Firmian, Embassador to the Queen Theresia, resolving to restore the celebrity of the University of Pavia, which had long fallen into neglect, invited Burserius by very honourable proposals to deliver public lectures on Chemistry and the Practice of Medicine, and also clinical lectures on the cases in the hospital, for the improvement of the pupils. With what exertion and with what success he discharged these important duties, no Italian is ignorant; not only his pupils, who came from the most distant countries for the sake of enjoying the advantage of his instructions, but also his professorial colleagues, who were much attached to him on account of his learning, elegant manners, and the candour of his mind, bore the most honourable testimony to his worth. The College of Physicians of Pavia elected him an honorary member of their body; the whole state and province were witnesses. But why should we dwell upon these external evidences of his high reputation? his own institutions on fevers, and other general diseases, afford the most decisive proofs of his merit.

During the ten years in which he discharged the duties of his Professorship, he was thrice unanimously elected Principal of the University, to the advancement and glory of which he contributed no less by his discipline than his learning. At length the Queen Theresia determined to commit the restoration of the health of her children Ferdinand and Beatrice Atestia to his care. This honourable appointment obliged him to leave the University of Pavia, where his loss was universally regretted, in order to reside at Milan, for the sake of being near the sick Princes. His anxiety night and day in the discharge of this duty contributed very materially to injure his own declining health, which the heart-felt thanks and princely gratitude of his royal patients and their parents, who imputed their recovery to his skill, could not restore. He resided seven years at court, caressed by his patrons, and universally esteemed and admired. He died Dec. 19, 1785, at the age of 61, of an abscess in the right kidney; the bladder was also said to be scirrhous, and the adjacent parts considerably diseased. His funeral, than which nothing could be more splendid or honourable, was personally attended by the young Princes. The loss of so great a man was severely felt by the whole city; for he was not more admired on account of his learning, than beloved for his polished manners and affability; so that he truly seemed to have been formed by nature to conciliate and secure the affections of all that knew him.

From the Introduction to the first volume, we give the following abridgement:

abridgement. "Medicine is properly enough divided into Theory and Practice." The former teaches those branches which may be deemed preparatory, and lays the foundations of the science; the latter comprises the whole art, and completes the superstructure.

The Theory is employed in delivering and explaining the general doctrines of anatomy, physiology, pathology, semeiotice, hygiene, and therapeutics, together with an enumeration of the *Instrumenta Medicinæ*, drawn from the three kingdoms of nature. And because this delivers the first rudiments of the art, and in every well regulated University, or school of medicine, is taught before the Practice, it has obtained the name of the *Institutions of Medicine*. How can it be expected that any one should conceive accurately of disease, its causes and effects, preserve health by a proper regimen, or restore it when lost, which are the objects of the practice of phsiyc, unless he possess a competent knowledge of the animal fabric, the organization, powers, faculties and functions of life and health? When this introductory knowledge has been acquired, the path to the more useful and valuable part of medicine, distinguished by the title of *Practice*, becomes direct, plain, and easy. It is the business of this part to deliver the history, and explain the nature of every *genus* and *species* of disease; to investigate their manyfold origen, to characterize their regular, peculiar, and diagnostic marks; to point out the prognosis; and, lastly, to lay down the most expedient indications of cure, deduced from reason and experience. By these steps we come to the bedside of the patient, called Clinical Practice, to which three branches are particularly subservient, Dietetics, Surgery, and Pharmacy, according as diet, operations, or medicines, may be indicated.

Of these two branches of the Science of Medicine, I propose to confine myself to the Practice solely, and to begin with FEVERS, not only as constituting the most common class of diseases, and being very often Idiopathic, but also most frequently combined with local affections. I am not insensible of the difficulty of the task I undertake, and perhaps have not sufficiently weighed

Nostri quid valeant humeri, quid ferre recusent.

For the more authors I consulted who had written on Fevers, the more was I involved in obscurity; some were for reducing the whole number to a few genera, others endeavoured to extend them by divisions and subdivisions, in a manner that baffled the memory and puzzled the understanding. This subject gave me no small trouble, but did not entirely discourage me. I determined to procure all the best authors I could find

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on the subject of fever, and read them diligently once or twice, constantly noting the circumstances in which they agreed and in which they differed, as well as the causes of their difference. When I had continued this labour for several years, I then determined to try these opinions of the most celebrated authors by the Lydian stone of experience, in order to distinguish fact from opinion or hypothesis. Whatever therefore I have acquired by many years reading, meditation, and experience, that I believe may be relied on, is comprised in this volume, for the benefit of students in this science. I have not been biased by the tenets of any sect, nor even very solicitous *whence* doctrines or opinions came, but what they were, and by what evidence supported. *Formulæ*, or compositions of medicines, are rarely given, for many reasons, but chiefly that young men may not be induced to employ more time in copying *formulæ*, and committing them to memory, than in distinguishing diseases, and discovering indications, without which they must practise like empirics, to the disgrace of their profession. For it is the duty of a rational practitioner, having maturely weighed and settled the indications, judiciously to accommodate his simple medicines to them; or if compound forms should be necessary, he ought to mix and combine such as are adapted, not only to the particular disease and its causes, but to the age, sex, temperament, climate, season of the year, and other necessary circumstances: nor will this be very difficult for him to perform, who has stored his memory with the nature and powers of medicines, the forms of prescribing them, and the diet of the sick, all which are taught in the general doctrines of Therapeia or Pharmaceutics, which I suppose to have been previously acquired by the student.

With respect to the style, I have always preferred the plain and perspicuous, to the pompous, affected, or figurative, which I think very ill accommodated to the business of teaching. Ornamental periods, therefore, calculated to please the ear only, I have unreluctantly relinquished to those who are ambitious of the name of orators; for in teaching and explaining practical arts, we may say,

"*Ornari res ipsa negat contenta doceri.*"

It is a problem of no very obvious solution, to determine where a teacher of the practice of medicine ought to begin. The most usual mode is to begin with Fevers. This appears to us like a person commencing a course of lectures on astronomy, with the construction of tables for calculating the motions of the moon, or a course of chemistry with the analysis of minerals.

Burserius appears to have been sensible of this solecism, and therefore introduces his work with a *Dissertation* on Inflammation.

This arrangement appears to us highly judicious; for it is scarcely possible to treat of any fever, or even chronic disease, without frequent mention of Inflammation. He thus introduces the history of it, which we have considerably abridged. "When any part of the body becomes preternaturally warm, red, tense, swelled, painful, or throbbing, it is said to be inflamed. The *proximate cause* of Inflammation is extremely obscure, and the investigation of it has engaged the attention of medical authors from the earliest ages of the science."

Hippocrates, in the book on wounds of the head, says, *The parts surrounding an ulcer are inflamed, and become tumified by the influx of blood.* His disciples, however, either forgetting the influx of blood, or not believing it, imagined an acrid or glutinous determination to the part inflamed, and sometimes a pituitous and viscid defluxion on the part.

These opinions prevailed till Erasistratus imputed inflammation and its attendant fever to a transfusion of blood into those vessels which are naturally destined to circulate air. For the ancients imagined that the *arteries*, as being generally found void of blood after death, were designed during health to circulate *air*, instead of blood. This seems to have been the origin of the Boerhaavian *error loci*, as a cause of inflammation.

The next innovators were, Galen, Oribasius, Ætius, Paulus Ægineta, and the other supporters of the Galenic system, who made inflammation to consist in a determination of hot blood to the part affected, which *distilled* through the pores, and produced swelling, pain, and redness; nay, Oribasius contended, that a putrescent state of that fluid so determined, was the cause of the heat. But as soon as the chemical sect began to rival the Galenic, Willis suggested a *febrile effervescence* of the blood as the cause of phlegmonous inflammation; and the *alkalis* of Sylvius, his cotemporary, tended as little to illuminate this obscure subject. Such were the first feeble attempts to shake off the trammels of the Galenic school. Ettmuller, apparently at different times, advanced two opinions on this subject: in the first, he considers the *increased heat* as the principal circumstance to be investigated; and in order to judge of the quantity or degree of increase as well as its cause, he institutes an inquiry into the cause of animal heat in general, during life and health,

health, and concludes, that it arises from the mutual action of a volatile aerial acid in its natural state and its proper alkali upon each other. But the increased heat of inflammation he derives from a different source, viz. an influx of spirit or gas, which increases the mutual action of the acid and alkali to a morbid degree. He therefore does not hesitate to consider the accumulation of blood in the inflamed part as an accessory symptom, not as the cause of the heat. For he says, the pain arising from the increased action of the acid and alkali produces a contraction of the fibres, hence the diameter of the veins is diminished, the return of the blood impeded, which produces stagnation, accumulation, and inflammation.

His other opinion was, that a congestion of blood in the capillary veins and cellular membranes produced heat and pain. The material proximate cause, therefore, of inflammation, he defines to be, blood collecting and stagnating in any part, on account of the incapacity of the veins to transmit it from the arteries as fast as it arrives. The other symptoms he endeavours to explain as follows, viz. Since the blood which causes inflammation is red, spirituous, and hot, wherever it accumulates there must be an increase of redness and heat; and since more blood flows into the part than can return by the veins, swelling must take place, the nervous fibres must be distended, hence pain and all the symptoms of inflammation.

Sydenham, who very seldom relies on the theoretical speculations of others, but is generally his own ætiologist, taking his causes from what he deemed observation and experience, believed he had discovered *a peculiar diathesis, or state of the fluids*, in inflammation; and he speaks of it as consisting in a conflagration and fervour of the blood itself. He is not solicitous to enquire whether its motion be accelerated or retarded in any part. The blood, however, being thus heated and effervescent, and carried to all parts of the body, he thinks some of its inflamed and heated particles are one while applied to the brain, sometimes to the pleura, or lungs, sometimes to the skin, and being there deposited produce phrenitis, pleuritis, pneumonia, or erysipelas. This translation, or deposition of inflammation, says Burserius, may often take place in acute fevers, and I would grant also in most inflammations which arise without any antecedent disease; but if we investigate the matter more closely, we shall not find the same account of their origin applicable to all kinds, for frequently the inflammatory diathesis of the blood is only a consequence, not a cause of the disease.

We shall now take a view of their notions, who referred every thing

to

to the laws of mechanics and hydraulics. Among these, BELLINI is chief, who assumes the heat of the blood with the Galenists, but adds an *obstruction* in the capillary vessels. PITCAIRN, of the same sect, thought the *obstruction* alone, sufficient to account for all the phœnomena of inflammation.

F. HOFFMAN not only admitted this kind of obstruction in the arteries which carry red blood, but also in the serous, the lymphatic, and the veins. Hence he deduces the following explanation of symptoms, viz. "The blood constantly flowing through the semiobstructed or constricted channels, must move with greater celerity; but being also deprived of its free passage, a part regurgitates to the larger branches, and there produces a more frequent diastole and systole of the arteries; whence arises a great attrition of the sulphureous parts, and extreme heat, which is distressing in proportion to the sensibility of the part affected."

BOERHAAVE made no improvements in the doctrine of inflammation, but GORTER, his pupil, saw sufficient cause for being dissatisfied with the explanation given by the mechanical physicians. He observed the increased pulsation of the arteries, which he concluded must arise from increased arterial action, and not from the obstruction of a few neighbouring branches. This argument he supported by hydraulic and anatomical experiments, as well as mathematical calculations; and he infers, that the proximate cause of inflammation, is a more vigorous *vital action* in particular branches of an artery, by which the red blood is impelled into the serous arteries, as appears in the albuginea of the eye.

That general inflammation, or inflammatory fever, is the effect of *increased action*, not only in a few branches of an artery, but in the whole arterial system. The increased tonic motion of the vessels which the STAHLIANS, (in conjunction with the *vis naturæ medicatrix*, or directrix of all vital actions) considered as the efficient cause of inflammation, appears very similar to the increased vital action of GORTER. SAUVAGES enlists under the Stahlian banners; but the single experiment of HALLER on the separated heart of a frog, proves that muscular action is not governed by the mind, or sentient principle alone.

These, says *Burserius*, are the principal and most celebrated notions on the proximate cause of infimmation, delivered by our predecessors, and from whence some other slight variations which we have omitted are obviously taken. Several opinions of our cotemporaries, such as a fermen-

tation

tation of the oleaginous parts of the blood; an increaſed coagulability of the fibrous parts; a redundance of phlogiſton or caloric; we paſs over as expoſed to objections no leſs formidable.

Our author then proceeds to deliver his own opinion, p. 24, which we ſhall endeavour to exhibit in as narrow a compaſs as poſſible.

It is agreed on all hands, ſays he, that an inflamed part is red, hot, ſwelled, painful, and affected with an unuſual pulſation; ſo that we may ſafely conclude an unuſual determination of blood to the part muſt attend inflammation. But if all the blood carried thither by the arteries were as readily returned by the veins, I could not expect local inflammation to take place. In order, therefore, to produce inflammation, ſwelling, heat and pain in any part, one of theſe two things muſt follow; either the blood carried by the arteries is not entirely received by the veins, which may happen from various cauſes; or that it is carried thither with a force ſufficient to diſtend and dilate the orifices of the lateral branches, or what are called the inorganic pores, and ſo form to itſelf new channels. In either way the influent blood will fill and diſtend the *vaſa minima*; nay, thoſe which are believed to admit only a ſingle red globule at a time, now receive ſeveral together; they are enlarged, and acquire an unſual redneſs: nor is it an uncommon thing for the blood to be forced, or to ooze through the exhalent arteries into the cellular membrane, as Galen ſuppoſed, and as diſſections have abundantly ſhewn: nor does it ſeem improbable that the blood may be accumulated in the *ſerous arteries*, ſo as to preſs upon the adjacent veſſels, and produce the obſtruction ſuppoſed by Hoffman and Gorter.

The redneſs, tenſion, and ſwelling of the part, proceed from the dilatation and repletion of the *vaſa minima*, as well as the effuſion of blood into the cellular membrane; and the increaſed pulſation of the arteries, from the increaſed velocity and quantity of blood determined to the part affected. As to the heat and ſenſe of burning which attend inflammation, it is not to be expected that it ſhould be ſufficiently explained, till phyſiologiſts have diſcovered the true cauſe of animal heat.

We may, however, at preſent venture to aſſert, that it depends upon the *quantity* of red blood, its accumulation, increaſed motion, attrition, change of vaſcular ſtructure, or evolution of caloric in conſequence of change.—While theſe changes are taking place, the nervous filaments muſt neceſſarily be diſtended and divellicated, before they can adapt

themselves to the new organization. Hence must arise an infinite diversity of pain, lancinating, shooting, gnawing, &c. according to the degree of inflammation, and the seat of the disease. Violent or continued pain, introduces spasm, whence the hard vibrating pulse so frequently observed to accompany inflammation.

[To be Continued.]

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IN the sixth number of the Medical Journal, your correspondent, Mr. SIMMONS, has informed you, that the late Dr. DARBEY was the first person who discovered the efficacy of musk and salt of hartshorn in gangrene and sphacelus. I have already observed to you, that Mr. WHITE, of Manchester, was author of the tract to which you allude in the fifth number of the same Journal, and, as I believed, the first practitioner who had noticed the good effects of the medicine there spoken of. I have but lately had an opportunity of referring to Dr. DARBEY's Thesis; but by looking it over, I have fully satisfied myself that Mr. WHITE not only was the first who promulgated an account of that remedy, but that he also was the first that discovered its efficacy in those affections; and, by permitting me to make a few extracts from each of the publications in question, I think my persuasion will not appear to have been hasty, unless we are not allowed to credit the assertions of Mr. WHITE himself, whose respectability as a gentleman, and whose reputation as a practitioner, the medical world hath long acknowledged. In the advertisement prefixed to his pamphlet, Mr. WHITE says,—"The following observations were made in 1783, but the author "was prevented publishing them, by many professional engagements "and other avocations. They have now been revised, and, though "many cases have since occurred in his practice, and been attended with "the same success, no notice has been taken of them. On dubious "points, too many cases can hardly be produced; but confirmed as he "is of the facts which he has to relate, he considered it as totally unnecessary to multiply them, especially as they will receive additional "strength from a Thesis, which his worthy friend, Mr. DARBEY, late "apothecary and house-surgeon to the Manchester Infirmary, intends to

"support

"support for a degree in medicine, and which will probably be sub-
"mitted to public inspection." In the pamphlet, p. 11, he says,—
"The remedy I have to lay before the public, is a large and frequent-
"ly-repeated dose of musk and salt of hartshorn, the use of which,
"like that of opium by Mr. POTT, *I discovered rather unexpectedly and*
"*by accident*." Page 17, he observes,—When I first employed this
"medicine in the complaints to which this pamphlet relates, it was not
"from any expectations, I must own, of stopping their immediate
"progress, but merely to combat disagreeable symptoms, such as the
"singultus, subsultus tendinum, and other convulsive spasms. I soon
"found it not only removed these unpromising appearances, but also
"procured ease, sleep, and a gentle diaphoresis, whilst, at the same
"time, the mortification regularly stopped. The circumstance struck
"me, but I scarcely durst flatter myself the stoppage of the complaint
"itself, in the first instance, was owing to the medicine, till, from re-
"peated trials of it, I observed the same uniform effects. In most of
"the cases in this species of mortification, that have fallen under my
"practice, it has succeeded to the utmost of my wishes, viz. when ac-
"companied with or occasioned by convulsive spasms, or arising from
"local injury, producing irritation." He relates four cases, in which the bark, and other medicines, were freely employed without advantage, when the patients were restored by the use of musk and volatile alkali. The second case, as it is short, and also as it was the first in the Infirmary, where the plan now under our notice was adopted, I will extract.——"JAMES OGDEN, of Manchester, aged forty-six, was, on
"the 6th of March, 1780, received into the Manchester Infirmary
"for a compound fracture of the leg: It soon became inflamed; swell-
"ed considerably, with much tension; shewed little signs of digestion;
"and, on the fifth, began to grow livid. The bark was given in con-
"siderable quantities; but, notwithstanding the use of it, the livid
"parts were completely mortified. His pulse beat 140 in a minute;
"his skin was hot and dry; and his tongue without moisture, brown
"and hard. A singultus and subsultus tendinum came on; he had a
"wildness in his looks, succeeded by a delirium. On the eighth from
"the accident, I directed him to take a bolus, containing 10 grains of
"musk with 10 grains of salt of hartshorn, made up with conserve of
"roses, every three hours. He slept better the following night than
"he had ever done since his misfortune, though he had no opiate; and
"the next morning he was in a breathing sweat. His symptoms gra-
"dually abated, but he continued the use of the bolus till he had taken
"two ounces and a half of musk, and as much salt of hartshorn. The

"mortification

"mortification stopped, and the dead parts separating from the living, "came away in large sloughs; but there was such a considerable loss of "substance, that he was not able to leave the Infirmary till the 11th of "December, upwards of nine months from the accident, when he was "discharged with a very useful leg." Allow me now to observe, that Dr. DARBEY graduated at Glasgow, in April 1790, and his Thesis was entitled,—"*Dissertatio Medica quædam de moschi et salis alk. volat.* "*usu, in febre nervosa et gangræna, proponens.*"—He has mentioned only one case of nervous fever, and that is without either date or the name of the person; and, indeed, it could not have affected this enquiry had it been otherwise. The cases of gangrene are related more methodically, and are three in number: The first, page the 15th, was that of Mr. P. who was seized in the month of October 1781, with an erysipelatous inflammation of both legs, and one of them mortified. Mr. DARBEY proposed musk and salt of hartshorn, to the gentlemen who were concerned for the patient, in doses of 10 grains each, three times a day, which he said he had seen of service in cases not much unlike this. After observing that a variety of remedies had been used without effect, he proceeds, page 16,—"*Hoc tempore primum forte hujusce* "*casus historiam mecum communicarunt medici solertes Dr.* HOULSTON, *et* "*Dom.* PARK, *qui medicina probe imbuti, plurima remedia incassum ægro* "*præceperant. Signa, nempe, singultum, tendinum subsultum, somnolen-* "*tiam, torporem, pulsus debiles, delirium sub noctem similiaque mecum in* "*animo volvens, proximo die medicis illis, moschum et salem cornu cervi* "*conjunctos, quos in exemplis non multum hujus disparibus proficere antea* "*videram ægro adhibendos proposui. Aurem facilem præbuerunt propositaque* "*acceperunt generosi supra dicti. Remedii utriusque grana decem ter in die* "*adhibita sunt. Eventum ipsis verbis Dom.* PARK *auscultas, quæ, ex* "*epistola ad Dom.* WHITE, *Mancunii chirurgum, missa, transcribenda cu-* "*ravi. Post signorum quæ paulo supra comprehendi, relationem, progre-* "*ditur Dom.* PARK."——Here follows the event of the case, in a letter from Mr. PARK to Mr. WHITE, which was in favor of the medicine. At the same time he remarks, that it was had recourse to in consequence of a suggestion from Mr. DARBEY, then apothecary at the Infirmary. It does not appear, from the Doctor's account of this case, that he ever saw the patient, nor is it probable he should, as he was not permitted to have any private practice; but this recommendation of the medicine was in a conversation he had with Dr. HOULSTON and Mr. PARK. The next case which he relates, page 18th, was that of J. Hurst, who was brought into the Manchester Infirmary on the 16th of March, 1789, for a fracture of the os humeri; the arm mortified: He took, with success, musk and volatile

volatile alk. of each 10 grains, in a bolus, every three hours. The third case is much like the second, both as to the complaint and result. These are all the cases the Dr. has related of the employment of this remedy in gangrene. The first case Mr. WHITE gives us, and in which the discovery appears to have been made, was in Sept. 1778. The second is that of a patient of his in the Infirmary, March, 1780. Now, by the nature of his office, as Apothecary to the charity, Dr. DARBEY must have compounded the medicine which Mr. WHITE prescribed; and, as house-surgeon, he must have attended the patient: he, therefore, no doubt, had noticed the effect of the medicine in Ogden's case, which happened long before he suggested the use of it to Dr. HOULSTON and Mr. PARK; beside, the agreement in proportion, quantity, and the mode of exhibition, ought to be noticed.—Mr. WHITE's first case was in 1778; Dr. DARBEY's first case in 1781.—Mr. WHITE claims the discovery, in positive words, page 11th, and is not contradicted by Dr. DARBEY; there is, however, an apparent incongruity in two passages of the Thesis: Page the 2d, he says,—"*Nemo autem, quantum in memoria nunc teneo,* "*suum animum directo ad effectus bonos, quos, in febre typhode atque membris* "*gangræna affectis adhibita, præstiterunt alkali volat. et moschus, hactenus* "*attendit*".——Page 25,—"*Hæc exempla sunt pauca ex multis quæ* "*proferre magnam ad utilitatem moschi et alkali volat. in febribus invete-* "*ratis et gangræna adhibitorum, confirmandam facile possum. Quicunque* "*vero hujuscemodi plura videre cupiat, tractatum de partibus gangræna af-* "*fectis earundemque curatione, a viro celeberrimo Carolo White armigero,* "*nosocomii Mancuniensis chirurgo, societatis regiæ Londinensis socio, &c. &c.* "*cito edendum, consulat.*"

I have lately had many opportunities of exhibiting digitalis in hooping-cough, but the length of the above address will not allow me to take up any more room in your Journal; I shall therefore conclude with observing, that in some of the cases its good effects have surprised me; at the same time, from experience, I can assure you, that Dr. MACLEAN's observations, respecting the perishableness of digitalis, cannot be too much attended to, as I have frequently been much deceived by it, in consequence of that quality. If they appear to be worthy of your attention, I will send you more particularly my observations on its operation.

I am, GENTLEMEN,
With much respect,
Your obedient servant,

STOCKPORT, *Sept.* 14. W. LOWE.

Remarks on the ill Consequences arising from unskilful Venæsection; by Mr. RING, *Member of the Corporation of Surgeons.*

To the Editors of the Medical and Physical Journal,

GENTLEMEN,

IN your last number appeared some Observations by Mr. PULLEY, of Bedford, on the Case of ill Effects produced by Venæsection, published by Dr. VAUGHAN, of Rochester; by which we learn, that Mr. P. agrees with me in rejecting the notion of a morbid poison; but not in the opinion, that the melancholy catastrophe was occasioned by the length of the orifice, and its not being properly closed.

Mr. P. thinks the inflammation which proved fatal, was owing to a peculiarity of constitution; which, he says, you may call irritability if you please. But, unfortunately for his argument, the man who lost his life on this occasion, is described by the learned gentleman who drew up the case, to have been athletic, in the prime of life; and from the opinion given by his surgeon previous to the operation, we may presume he was then in full health and vigour.

As Mr. P. alludes, with due respect to that celebrated anatomist and physiologist Mr. HUNTER, I shall appeal to the same authority. He says, in his Treatise on the Blood, Inflammation, &c. p. 230: "A wound made upon a person of a healthy constitution, and sound parts, will unite almost at once." This destroys every idea of an irritability, or any other manifest or occult quality, existing in a robust constitution, that can tend to prevent or retard union by the first intention.

It may then be asked, what impeded this salutary process in the case under consideration? To this I answer, The incision was *very large*; and when a surgeon was called in, the sides of the vein appeared to him not united, but inflamed and suppurated. In addition to the natural difficulty of keeping the lips of the wound in perfect contact, when it is immoderately long, its situation in the bend of the elbow is an impediment; for as often as the arm is put into a state of flexion, the orifice will have a tendency to open, in proportion to its length.

This

This opinion is not founded upon mere theory; I have ſeen repeated inſtances of conſiderable inflammation and ſuppuration, evidently ariſing from that cauſe.

Mr. P. doubts the propriety of Dr. Vaughan's deciſion; and ſays, juſtice ought to be done to the barber.—I hope no one will raſhly condemn the barber;

For a barber to ſlay is a barbarous deed,

as the author of Salmagundi rightly obſerves. At the ſame time, I think Mr. P. rather over-rates the chirurgical ſkill of the barber. He ſays, he firmly believes, that if the ſurgeon had bled him himſelf, the ſame would have been the iſſue. If this opinion can be juſtified, it may prove a conſiderable ſaving to the public in theſe hard times; for it muſt be unneceſſary to employ a ſurgeon, in caſes requiring venæſection, if it can be performed full as well by a barber.

Having bled, and ſeen bled, numbers of perſons endowed with every degree of irritability, I cannot recollect a ſingle inſtance of any ſerious ill conſequence ariſing from that cauſe; but I have known, on various occaſions, the habit of the patient blamed by the ſurgeon, when the patient had much greater reaſon to blame the ſurgeon for his want of ſkill.

Mr. P. agrees with me, that in all probability the miſchief was not produced by any poiſonous matter. He thinks, as I do, that "the ſymptoms of ſuch caſes were erroneouſly conſidered, till the keen ſcrutinizing knife of Mr. Hunter exhibited the diſeaſe in its proper colour."—If Mr. P. will allow the edge of Mr. Hunter's wit to have been as keen as that of his knife, and that he was any judge of thoſe caſes to which he paid ſuch particular attention, I ſhall convince him that his own opinion alſo is erroneous.

Mr. P. ſays, "It has been imagined, the inflammation has been induced by the external orifice not being effectually cloſed; but this idea is by no means correct." What ſays Mr. Hunter? After obſerving that ſome have aſcribed the bad conſequences ariſing from venæſection, to the puncture of a nerve, aponeuroſis, or tendon, he adds, "By a third ſet of phyſiologiſts, the conſtitution has been blamed; and the ſymptoms have been ſaid to ariſe *only in bad habits*. But here alſo experience is on the oppoſite ſide; and a perſon who has before enjoyed the moſt perfect health, is juſt as liable to the accidents from bleeding, as one of a weakened or crazy conſtitution. And it may even be obſerved, that, where ſuch accidents have happened, the patient has been bled in the oppoſite arm, without any inconvenience."

In

In the third volume of the Medical Commentaries, from which I extracted the foregoing paragraph, Dr. DUNCAN informs us, that for various reasons which he specifies, Mr. HUNTER concluded, that the mischief arose from an inflammation of the cavity of the vein. In a fatal case there mentioned, the orifice was, as in Dr. V's. case, still open.

"Mr. HUNTER is disposed to think," says Dr. DUNCAN, "that the principal cause producing the inflammation of a vein after bleeding, is the want of disposition to heal. This may at first arise either from its being exposed, or in consequence of the lips of the orifice in the skin not being properly brought together. If an injury be done to one part of a cavity, the stimulus, which arises from its being an imperfect cavity, goes through the whole. Hence it inflames, and suppurates. In order to prevent mischief, Mr. HUNTER advises that the orifice should be closed as accurately as possible; and he recommends that the orifice in the skin should be drawn to one side of that in the vein, so as to make the skin do the office of a valve to the venal orifice."

In Dr. VAUGHAN's case, that the inflammation affected the lymphatics, and that matter was absorbed by those lymphatics, cannot be doubted; and I think there is no reason to doubt, that the matter was generated in the arm itself.

The man was bled on Sunday, and no pain was felt till Tuesday evening; when suppuration might not only be expected, but we are positively informed by Dr. V. that it had taken place, and was perceived by the surgeon. Dr. V's. account agrees with reason and experience, however erroneous his conclusion may be. He says, *the sides of the vein did not appear to be united, but inflamed and suppurated:* and again, that *the wound of the vein underwent inflammation and suppuration,* and *then* the disease appeared.

He says, "Its appearance so soon after the application of the poison was probably owing to Mr. GREEN being naturally *a healthy man*; and to his labouring under *no other disease* at the same time." — This remark alone is fatal to Mr. P's. hypothesis.

But so far from the time being remarkably short, for so formidable a disease to be occasioned by inflammation, suppuration, and absorption of matter; it is not a fortnight since I was called to a lady, in whose arm a considerable number of lymphatics, highly inflamed, might be traced up to the axilla, attended with violent pain. The cause was a small

ſmall whitlow, of no long ſtanding, on the thumb. By opening it, removing a ſmall portion of the ſkin, enſuring a free diſcharge, and cutting off the ſupply of matter; and, perhaps, full as much, by taking off tenſion and irritation by the means above mentioned, and the application of a poultice to the abſceſs, and cold water to the arm, all pain and miſchief were ſoon removed. Similar ill effects, ariſing from confined matter in every part of the hand and arm, are too common, and too well known to every ſurgeon, to require a minute recital.

Theſe remarks may to ſome readers appear ſuperfluous; if they appear ſo to you, I beg you will ſuppreſs them; if not, you will oblige me by inſerting them in the next Number of your reſpectable Journal.

I am, Gentlemen,

NEW STREET, HANOVER SQUARE, Your obedient ſervant,

Oct. 4, 1799. JOHN RING.

Obſervations upon Inveterate Ulcers; by J. VAGE, *M. D.*

To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

THE ingenious exertions of ſome of your correſpondents for the cure of old ulcers, and particularly in the lower extremities, induces me to contribute my mite to this laudable intention. A great number of caſes of this deſcription has been, for ſeveral years paſt, under my care; and the inveteracy of ſome of them cauſed me to be ſomewhat experimental in their treatment. The reſult of my trials, both in reſpect of theory and practice, I ſhall communicate as briefly as I can for your uſeful publication. In this, however, I muſt beg leave to ſpeak agreeably to the doctrines of the old ſchool; for, though the preſent rage of applying the modern chemical diſcoveries to the practice of phyſic is highly commendable, yet as a warm controverſy ſubſiſts between men of eminent abilities, not only about all the applications which have been made of theſe diſcoveries, but even about the diſcoveries themſelves, it warrants me to decline them, until indubitable facts, and cool impartial teſtimonies, ſhall have decided the buſineſs on one ſide or other.

Ulcers

Ulcers have been long diſtinguiſhed into benign and malignant, in proportion as they have yielded to or reſiſted the eſtabliſhed methods of practice; for, indeed, whatever advancements medical knowledge may have received, in many points this branch of it appears to have ſo ſtubbornly retained its difficulties, that even at this time the ableſt practitioners are frequently obliged to plead the defectiveneſs of the art. Formerly, the obſtinacy of ulcers were acknowledged to be ſo great, as to be attributed to witchcraft. But when the progreſs of natural knowledge had diſſipated the clouds of ſuperſtition, another aſylum was founded for incapacity; and ulcers, whenever they baffled the ſurgeon's ſkill, were ſuppoſed to belong to diſeaſes which are commonly eſteemed incurable, and they were then denominated of a ſcrofulous, or cancerous nature, and the like. Many authors, with more reaſon and ſcientific latitude on their ſide, imagined that the malignity of ſuch caſes always proceeded from ſome bad habit of body, ſome depravation in the fluids and ſolids, and I was eaſily led to eſpouſe this tenet; but obſerving ſtill that many ulcers, which could not with any propriety be reckoned either ſcrofulous or cancerous, not only eluded the ſtricteſt regimen, and a perſeverance in the moſt approved alterative courſes of medicine, but were even aggravated in their condition, I began to ſuſpect this doctrine too, and that inſtead of any general conſtitutional ſource, the cauſe of their malignity and obſtinacy was chiefly of a local nature. A comparative view of a foul ulcer, with one in a healing ſtate, ſeemed to correſpond ſo exactly with this opinion, that, extraordinary as it appeared, I was encouraged to adopt it. In an inveterate ulcer, it is obſervable that the external parts about it, and, of courſe, the parts beneath its ſurface, are in a morbid ſtate; and as the humours which conſtitute the diſcharge muſt paſs through theſe parts, it is reaſonable to ſuppoſe that they contract a degree of acrimony, or ſome quality inimical to the ſurface of the ſore, and, conſequently, become corroſive and painful. Upon any temporary ceſſation of this pain and corroſion, which is often procured by palliative applications, either a gloſſy, ſpongy, inorganized fleſh ſprings up, or little callous granulations, at the bottom and ſides of the ulcer. In a healing one, every thing is the reverſe of this; the contiguous parts are in a ſound condition, and have a natural complexion; the granulations, which gradually proceed to incarn the ſore, have a healthy appearance, and are properly organized with veſſels and nerves for a circulation in the future cicatrix; the diſcharge is a well-digeſted pus, which, inſtead of exciting pain, is nature's congenial balſam to ſheath and cheriſh the tender germinations.

But

But what chiefly folicited my attention was, that all thefe appearances in malignant ulcers, their acrimony, the fanioufnefs of the difcharge, the corrofion, the fpongy flefh, the callous granulations, &c. were always in proportion to the extent of the morbid circumjacent parts, and the extent itfelf, the product of habitual virulence. A fickly complexion, and a vitiated conftitution, indeed, conftantly attend ulcers of any confiderable ftanding or magnitude; and hence, probably, arofe the opinion that their malignity originated from that fource. It is, however, pretty certain, that this depravation of the fluids and folids, though it may in its turn increafe the obftinacy of ulcers, is yet, in general, the effect and not the caufe of them, from an abforption of the morbid humours generated in and about them. If this is the cafe, there is much reafon for thinking that artificial fores, if long continued, whatever advantage they afford at firft, fuch as iffues, fetons, perpetual blifters, become hurtful to the conftitution. And I am not without reafons for believing, that even the cicatrices of old ulcers long circulate and fecrete humours injurious in fome degree to the animal œconomy.

But to bring as near as poffible to a proof, and to afcertain with fome certainty what effects a reputed bad habit of body, or fuch a one as accompanies old ulcers, has in producing the acrimony of their difcharge, I caufed artificial fores to be made with cauftics, in patients afflicted with fuch ulcers, and in fimilar parts of the body; for it appeared a fair conclufion, that where a putrid efchar was to be feparated and digefted off by an inflammation and a generation of found flefh, the general depravity of the folids and fluids, if it was powerful enough to keep up the virulence of the old ulcer, would fhew a fimilar difpofition in and retard the cure of the new one. No fuch thing happened; but in many patients felected for the purpofe, at different times, the efchars digefted off, and the wounds healed as kindly, as they would have done in people without any previous ailment. What other inference, then, could be drawn from this, but that the malignity of old ulcers chiefly arifes from the morbid circumjacent parts, and that the deftruction of thefe parts, or, in other words, a reduction of fuch ulcers to the ftate of a frefh wound, would infallibly bring them to a healing condition? I made no fcruple, therefore, to put this idea in execution, and always found where it could be perfectly done, it never failed of fuccefs. What are all the common modes of practice, in fevere cafes, but mere palliatives? It is eafy to correct the difcharge; farinaceous and vegetable cataplafms in a ftate of fermentation, feveral antifeptic liniments, and fpirituous camphorated acetated dreffings, will do it, and procure a tem-

a temporary relief; but that ſtate is followed by nothing more than either the generation of that gloſſy ſpongy fleſh already mentioned, or the callous knobby granulations, which are only as bad or worſe variations of the complaint.

Long before I had adopted this way of thinking and practice, I knew that cauſtics would effectually ſtop and quickly heal ſome venereal chancres; but I remarked, at the ſame time, that ſome were ſo virulent as to reſiſt them, which I was then at a loſs to account for; but I now know to a certainty, that the failure aroſe from too ſuperficial an application of them. The cauſtics which were then uſed, were the lunar, and a ſolution of argent viv. in the nitrous acid; and I, for ſome time, imagined, that the good effects were peculiar to theſe; but the ſtrong cauſtic alkali anſwers better: it occaſions leſs pain, as it inſtantly deſtroys the ſenſation of the parts, and, therefore, the ſtronger it is the better, if it is uſed with judgment.

Remarks on Mr. Owen's *Letter, relating to the Hiſtory of the Venereal Diſeaſe, communicated by Mr.* Blair, *Surgeon of the* Lock Hoſpital *and the* Finſbury Diſpenſary, *&c. &c.*

To the Editors of the Medical and Phyſical Journal.

Gentlemen,

IN the laſt number of your Journal is a tranſlation of an old Welch manuſcript, ſuppoſed by Mr. Owen and yourſelves "to relate to the "hiſtory of the venereal diſeaſe." It contains a preſcription "for the "great puſtulous eruption and its degrees," as the manuſcript informs us; and "this remedy was ſent by Mr. Ry. Tiler, a French phyſician, "when it was the year of our Lord one thouſand and five hundred, "ſave ſix years," *(i. e.* 1494) "to king Henry VII. the firſt perſon in "this kingdom who was afflicted with that diſeaſe." Admitting, Gentlemen, that yourſelves and your correſpondent do not miſtake the meaning of the original writer, I think the fragment in queſtion muſt be conſidered as a complete refutation of all that has been hitherto advanced concerning the origin and progreſs of the lues venerea. But to me

me it ſeems probable, that this fragment has no relation whatever to that diſeaſe; and my opinion is founded on the following conſiderations:

I. The phraſe *venereal diſeaſe* does not occur in the Welch manuſcript, nor is there any analogous expreſſion which can be conſtrued into a reference to that diſorder.

II. The "great puſtulous eruption" with which King Henry VII. was afflicted in 1494, is here deſcribed in ſuch a manner as to prove its diſſimilarity from the lues venerea.

III. Collateral evidence is entirely wanting of this diſeaſe having been introduced into England before the year 1497, ſo that the Welch fragment runs counter to all other hiſtorical evidence.

IV. Upon the ſuppoſition that Henry VII. had actually been infected with the ſyphilis, he was in too elevated a ſtation to eſcape notice among Engliſh hiſtorians. Francis the Firſt, Cæſar Borgia, Cardinal Wolſey, and other perſons of rank, were in this predicament, and their reſpective caſes have been recorded in hiſtory.

V. No preſumption can be taken up in ſupport of Mr. Owen's opinion, merely from the uſe of a mercurial ointment, ſince the ſame remedy was employed in that age againſt leprous affections of the ſkin.

VI. There is no exiſting proof in the annals of medicine, that mercury was uſed externally in ſyphilis ſo early as the year 1494.

On all theſe accounts, therefore, I think it may be fairly concluded, that the Welch manuſcript has been miſunderſtood, and does not relate to the venereal diſeaſe.

May I be permitted, Gentlemen, to avail myſelf of the preſent opportunity of mentioning, for the information of medical men in general, that my *ſecond* collection of caſes to illuſtrate the anti-venereal effects of *nitrous acid,* is not quite completed; and that I ſhall be happy to receive any other caſes which may tend to elucidate this practical enquiry. By inſerting this notice in your next number, you will not only oblige a conſtant reader, but, I truſt, will be ſerving a public cauſe.

Oct. 10, 1799, WILLIAM BLAIR.
Great Ruſſel Street, Bloomſbury.

Obſervations on the Mineral Waters of Moffat, *in the County of* Dumfries, Scotland, *by* T. Garnett, *M. D. Profeſſor of Phyſics and Philoſophy in* Anderson's Univerſity, Glaſgow, *&c.*

THE village of Moffat is ſituated on a riſing ground, at the head of a plain, or valley, extending more than twenty miles along the banks of the Annan. It is encompaſſed on the eaſt, north, and weſt, by hills of different heights. It conſiſts chiefly of one very ſpacious ſtreet, with two good inns, and ſeveral private lodging houſes, which are let to invalids, who reſort to this place during the ſummer, for the ſake of its mineral waters. The church is a handſome building, ſurrounded by trees, which produce a good effect. Indeed, the view of the village from any part is far from unpictureſque. The number of inhabitants is ſomething more than a thouſand. Lord Hopeton has a houſe here, at which he occaſionally reſides.

Moffat has long been celebrated for its mineral waters, and may be denominated the Harrogate of Scotland; numbers of invalids from Edinburgh, Glaſgow, Dumfries, and various parts of Scotland, reſort to it every year; and though in winter a reſidence here would be very dull and dreary, in ſummer the village is all life.

The climate of Moffat is ſaid to be remarkably healthy, and the air ſo extremely pure, as to occaſion ſneezing, and other marks of ſuperoxygenation, in perſons not accuſtomed to it, particularly if they have lived for ſome time in a large town, or a confined ſituation. Its effects are particularly exhilarating and bracing, as I have myſelf experienced; and though the ſhowers of rain are frequent, and ſometimes heavy, as might be expected in a mountainous country, yet a moiſt or foggy atmoſphere is ſeldom ſeen. Every opening of the clouds diſcovers a ſky of a beautiful azure, which, in a clear day, aſſumes a diſtinctneſs and brightneſs that might vie with an Italian ſky. Theſe circumſtances, with exerciſe, contribute, perhaps, more than the waters, to reſtore the exhauſted and debilitated conſtitution.

The mineral waters are of two kinds, ſulphureous and chalybeate: The firſt has long been diſtinguiſhed by the name of the Moffat well; and is ſituated about a mile and a half from the village. A good carriage road has been made to it, and there is a room and ſtables, near the

the well, for the accommodation of the company while drinking the waters.

The ſpring oozes out of a rock, at the diſtance of only two or three yards from a little rivulet; a few yards above it is a bog, from whence it probably derives its ſulphureous impregnation. The well is covered over with a ſtone building, incloſing a pump. The water has a ſtrong ſmell, reſembling bilge water, or the ſcourings of a foul gun, like the ſulphureous waters at Harrogate, though not quite ſo ſtrong; it has a ſlight ſaline taſte, and ſparkles conſiderably when firſt taken from the ſpring, particularly when poured out of one glaſs into another. The ſides of the well are lined with a whitiſh cruſt; and when the water has been ſuffered to ſtand for ſome days without pumping, it becomes covered with a white film; both theſe, when dried, burn with a bluiſh flame and ſuffocating ſmell, which indicate them to be ſulphur.

On the 9th of October, when the temperature of the air was 54°, and that of the adjoining brook 48°, the temperature of the ſpring was 50°. The following experiments were made with a view of aſcertaining the nature of its contents:

1. Characters written upon paper with *acetite of lead*, were rendered viſible on being immerſed in the water; the colour was at firſt brown, and on remaining longer quite black.

2. A ſolution of acetite of lead in diſtilled water, dropped into the water, cauſed a copious brown precipitate.

3. Tincture of galls produced no change.

4. Lime-water produced a very ſlight turbidneſs.

5. Tincture of turnſole produced ſcarcely any ſenſible redneſs.

6. Acid of ſugar produced no change.

7. Muriat of barytes produced no effect.

8. Nitrat of ſilver cauſed a white cloudy appearance, with a copious precipitate.

9. When the water had been boiled for a few minutes, it was not changed by any of theſe precipitants, except the nitrat of ſilver.

From the firſt and ſecond of theſe experiments, it appears that the water is impregnated with ſulphurated hydrogen gas; the third ſhows it to contain no iron; the fourth and fifth indicate but a ſmall quantity of carbonic acid; from the ſixth it appears to contain no lime; and from the ſeventh no ſulphuric acid; the eighth, however, diſcovers the muriatic acid, which we ſhall afterwards find is combined with ſoda.

10. By

10. By means of the pneumatic apparatus, which I defcribed in a treatife I publifhed fome years ago on the Crefcent water at Harrogate, and likewife in an early number, I think the fecond or third of the New London Medical Journal, printed for Deighton, Holborn, nineteen cubic inches of permanently elaftic fluid were procured from a wine gallon of the Moffat water; of which, four were azotic gas; five carbonic acid, and ten fulphurated hydrogen gas,

11. A wine gallon of this water was evaporated very flowly to drynefs, and 36 grains of muriat of foda were obtained, fome of the cryftals of which were very diftinct.

Hence it may be concluded, that a wine gallon of the fulphur water at Moffat contains

Of muriat of foda	—	36	grains.
Sulphurated hydrogen gas		10	cubic inches.
Azotic gas	— —	4	
Carbonic acid gas	—	5	

This water will not keep; for though clofely corked up in bottles, in the courfe of two or three days it is found to have loft the whole of its fulphureous fmell.

The next water which I examined was the Hartfell Spa, which fprings out of the bafe of a mountain of that name, and is nearly five miles diftant from Moffat. It is found at the bottom of a deep and narrow ravine, or linn, the fides of which are entirely laid bare to the very top, and form a very interefting object to the mineralogift, as all the different ftrata can be diftinctly feen. Thefe ftrata dip towards the bottom of the mountain, and are inclined to the horizon in an angle of about 15°.

The loweft ftratum is a black and foft kind of rock which eafily crumbles to pieces, and confifts of clay, with great quantities of fulphuret of iron and fulphuret of alumin; immediately above this ftratum, which is feveral feet in thicknefs, lies another, compofed chiefly of clay and argilaceous iron-ftone; above this is another ftratum of blackifh fhale, refembling the loweft; and above this another of argilaceous iron-ftone, of a fine deep red. The afcent up this ravine is very difficult;—a little brook tumbles down it, forming fome pretty cafcades, and nearly at the foot of the glen is the mineral water, which feems to originate from water filtering through and diffolving the fulphats of iron and alumin of the rock; and in confequence of this it is, as might be expected, ftrongeft after rains, contrary to moft mineral waters.

waters. The whole brook depofits an ochre, or oxid of iron, which colours the rocky channel to a confiderable diftance. On fome of the rocks above the fpring I found fome beautiful fpecimens of *alumen plumofum*, and a few green cryftals of fulphats of iron.

In thefe fchiftous ftrata, the fulphurets are decompofed; by the action of the air, and the contact of water, the fulphur is converted into fulphuric acid, which combining with the iron and alumin, form the fulphats; thefe being foluble in water, are wafhed away, filter along the crevices, and iffue in the form of a fpring, which is covered by a fmall building.

This well was difcovered in the year 1748, by JOHN WILLIAMSON, an excentric but benevolent character. He believed in the Pythagorean doctrine of the *metempfychofis*, or tranfmigration of the foul into the bodies of different animals; on this account he never tafted animal food for the laft forty or fifty years of his life, nor would he fuffer the fmalleft infect to be killed if he could prevent it. He drank this water conftantly for many years.

The water is perfectly clear when taken from the well, but gradually depofits, even though fealed up, a little oxid of iron in the form of a fine fediment. It has a ftrong aftringent tafte like ink. The following is the refult of the experiments which I made upon it:

1. Tincture of galls dropped into it produced a colour nearly as black as ink, and this colour was as deep when the experiment was made after the water had been boiled as it was before, which fhows that the iron is not fufpended by the carbonic but by a fixed acid.

2. Muriat of barytes produced a white coloured and a copious fediment.

3. Acid of fugar produced no change.

4. Acetite of lead produced a flight turbidnefs with a white precipitate.

5. Tincture of turnfole was rendered a little red.

6. Lime water produced a flight turbidnefs, with fome precipitate of alumin.

7. By means of the machine, only five cubic inches of gas were expelled from a wine gallon of the water, which was chiefly azotic gas.

8. A wine gallon of the Hartfell water was made to boil gently; it foon became turbid, and depofited a brown powder, after which it was perfectly clear. The powder was collected by filtration, and found to weigh

weigh fifteen grains; it was of a yellowifh colour, but changed to a beautiful red on expofure to a confiderable heat: it was found to be oxid of iron.

The clear liquor was evaporated very gently to drynefs, and the faline matter procured in this manner weighed 96 grains. This was found to confift of fulphat of iron, and fulphat of alumin. In order to difcover the refpective quantities of each of thefe falts, the whole was diffolved in water, and the iron precipitated by tincture of galls. When this was feparated, a folution of falt of tartar (carbonat of potafh) was added, which precipitated the alumin in a carbonated ftate, and from the quantity of carbonat of alumin, it was eafy to calculate the fulphat of alumin, which I found to be 12 grains; the quantity of fulphat of iron muft therefore be 84 grains.

This water taftes much ftronger after it has ftood two or three days, even in an open veffel, though it is in fact weaker, becaufe it has loft part of its iron by ftanding. The fulphuric acid lofing part of its iron, its tafte becomes more fenfible, and the water approaches nearer to a folution of fal martis.

From the preceding experiments, it appears that a wine gallon of the Hartfell water contains,

Of fulphat of iron, — —	84 grains.
Sulphat of alumin, — —	12 grains.
Azotic gas, — — —	5 cubic inches.

Together with fifteen grains of oxid of iron, with which the fulphuric acid feems to be fuperfaturated, and which it gradually depofits on expofure to the air, and almoft immediately if boiled.

As the principal mineralifers of this water are the fulphats of iron and alumin, it is evident, that if well corked, it will keep for months, and perhaps years, unimpaired in its qualities: hence it may be carried to a diftance, better than moft mineral waters, and its good effects need not be confined to Scotland, or even to Britain. When Dr. JOHNSTONE, a phyfician at Moffat, had the care of it, he fent it to many towns in England, and to the Weft Indies; but it is now in hands that render it of comparatively little benefit to the public. As this water keeps fo well, it is not neceffary to go to the fpot to drink it, but it may be procured in Moffat in a very frefh ftate. It very much refembles the water of the Horley-Green Spa, near Halifax; of which I

publifhed

published an analysis in 1790; only the Horley-Green water is considerably stronger.

While rambling about Moffat, I one day observed a spring near the Evan Bridge, at the end of the town, beyond the Manse on the Dumfries road, which appeared to be chalybeate. On tasting it, I found it strongly resembled the chalybeates at High Harrogate; I therefore made some experiments with it, of which the following are the results:

1. Tincture of galls produced a beautiful purple colour, but not after the water had been boiled.
2. Lime water produced a slight cloud.
3. Muriat of barytes caused no change.
4. Acid of sugar produced no effect.
5. Tincture of turnsole caused a slight redness.
6. Acetite of lead produced no effect.

These experiments convinced me of its resemblance to the Harrogate chalybeates, in which the iron is suspended by carbonic acid, as is evidently the case here.

I next expelled the gas by means of the machine, which I found to amount to seventeen cubic inches, of which thirteen were carbonic acid, and three azotic gas.

A wine gallon of the water was next made to boil gently for a quarter of an hour, during which time it deposited a quantity of yellow sediment, which being collected by filtration, weighed two grains, and was evidently oxid of iron. The clear liquor which remained after filtration was not affected by any of the above tests.

Hence a wine gallon of this water must contain,

Of carbonat of iron, — —	2 grains.
Carbonic acid gas, — — —	13 cubic inches.
Azotic gas, — — —	3 ditto.

The quantities of iron and carbonic acid gas, which are the only substances of any consequence, are very nearly equal to those in the chalybeates at Harrogate. (See Memoirs of the Medical Society of London, Vol. V. and my Treatise on the Mineral Waters of Harrogate.) From this it cannot be doubted, that if this well were properly enclosed, which I was promised should be done, it would be a valuable addition to Moffat. It would agree with many constitutions, in which the Hartfell water

water is improper, on account of its too great aſtringency and tonic power; and its vicinity to Moffat is a great advantage, as it can be drank on the ſpot by thoſe who reſort to this watering place.

To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

IN Duncan's Annals of Medicine for the laſt year, is a paper by Mr. C. FISCHER, on the air bladder of a fiſh; his obſervations gave riſe to the following, which, if worthy of inſertion in your Journal, will be deemed an honour,

By your moſt obedient,

Leiceſter Street, Leiceſter Square. C. WILKINSON.

FISCHER ſuppoſes that this organ is deſtined to decompoſe water for the purpoſe of affording oxygen to the animal. If the oxygen is given out, only hydrogen ought to be found in the bladder: according to FISCHER, azotic and carbonic acid gas were more frequently diſcovered. To aſcertain this, I tried the following experiments.

As trout poſſeſs a larger air bladder, in proportion to their ſize, than any other fiſh, I procured ſome of their bladders, as freſh as poſſible; I opened them ſo as to let the air enter into my eudiometer. In making uſe of the nitrous teſt, the ſame diminution took place as in atmoſpheric air.

I opened another bladder under my receiver, expoſing the gas to lime water; no cretaceous precipitation enſued, which would neceſſarily, had it been carbonic acid gas.

In a ſmall glaſs exploding veſſel, I opened another, then mixed with it the proportionate part of hydrogen; on paſſing the electrical ſpark, the ſame exploſion took place as is obſerved with hydrogen and atmoſpheric air.

I took particular care that the bladders were opened before the contained air could have undergone any change.

It is ſurpriſing that bladders filled with any kind of gas, placed in a fur-

a ſurrounding medium of a different gas, will ſoon loſe its own, and imbibe the ſurrounding.

I filled a bladder with hydrogen gas for the ſpace of two hours; the gas did not appear to undergo any change; after three hours, the bladder increaſed inſenſibly in weight; on examining the air, it was found ſo much mixed with atmoſpheric air, as to be rendered exploſible.

I placed a bladder diſtended with hydrogen, under a large receiver of carbonic acid gas; after ſix hours the bladder was nearly half filled with the carbonic acid gas.

Theſe experiments will induce one to believe that the bladder is ſo pervious, as to let the contained air gradually eſcape; this would not appear ſo ſurpriſing, were it not that the bladder remains equally diſtended, mixed with air of the ſurrounding medium, ſo that the bladder imbibes a particle of air for every particle it evolves; thus imperceptibly changing till an equilibrium takes place.

From theſe circumſtances, it requires the utmoſt caution to make any inference from experiments on airs, confined in bladders for any time.

The bladders appear to anſwer no other purpoſe than to regulate the buoyancy of the fiſh.

The bladder is compoſed of two portions or bags, one lying within the thorax, the other portion in the abdomen.

Theſe portions communicate with each other; in the quiet ſtate of the animal, neither of them are quite diſtended; the thoracic portion lying in a cavity arched by bone, no diminution takes place in the bulk of the thorax by any alteration of the thoracic veſicular portion.

The abdomen varies with the changes of its veſicular portion.

The animal when he wants to riſe, compreſſes the thoracic portion; this determines the air into the abdominal portion, increaſes the bulk of the animal, and renders him ſpecifically lighter than the water.

To effect this compreſſion, the thoracic veſicular portion is ſurrounded with a ſtrong muſcular theca, which the abdominal portion has not.

I ſee no phyſiological purpoſe that could be anſwered, by ſuppoſing it to be deſtined to decompoſe water.

For every office of reſpiration the gills anſwer, and which are well

known to correſpond to our lungs, as they ſeparate the air from the water.

Fiſhes ſoon die when placed in diſtilled water.

To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

I HAVE ſent the following Caſe to be inſerted, if you approve of it, in your very uſeful Publication.

I am, GENTLEMEN,

Your moſt obliged humble ſervant,

DUDLEY, *Oct.* 9, 1799. THOMAS WAINWRIGHT.

A Gentleman, in conſequence of a fall from his horſe, received a violent blow on the *ſcrob. cordis*; he immediately fainted, and lay for ſome time ſenſeleſs. He walked home with great difficulty, and had nearly periſhed from the ſeverity of the froſt. In the morning the ſcrob. cordis was ſwelled, tenſe, and diſcoloured; the pain of it was increaſed by the ſlighteſt preſſure; the pulſe was hard, ſmall, and frequent; the patient could only lie on his back, was reſtleſs and ſleepleſs; the ſkin, eyes, and urine were for ſeveral days tinged with bile; the pain was conſtant and very acute, and after ſome time extended gradually down the right ſide to the bottom of the belly, and from thence to the left ſide; the abdomen was now tumid, and an obſcure fluctuation was felt. A frequent dry cough came on early in the diſeaſe, attended with a difficulty of breathing. Eight weeks after the accident, death kindly removed him from theſe dreadful ſufferings, which he had borne with exemplary fortitude.

DISSECTION.

When the abdomen, which was ſwelled and tenſe, was laid open, a tumour of extraordinary ſize and appearance preſented itſelf. It occupied the whole of the hypogaſtric, and part of the umbilical regions. The tumour was found to ariſe from a ſac containing three or four gallons (by computation) of a graſs-green coloured fluid, which was evidently mixed largely with bile, for it ſtained our hands and the linen, &c. yellow. This ſac commenced from the inferior ſurface of the liver,

liver, cloſe to the *ductus hepaticus*, which duct was enlarged in its courſe into the ſubſtance of the liver to the diameter of two-thirds of an inch. From this origin the ſac was traced under the diaphragm; the fluid contained having diſſected the pleura from the ribs, and formed a tumour which compreſſed the right lobe of the lungs; thence deſcending in the reverſe courſe of the aſcending colon, and puſhing the caput cœcum coli obliquely inwards, the ſac paſſed into and completely filled the pelvis, preſſing the urinary bladder into a very contracted ſpace. Aſcending from the pelvis, the ſac followed the reverſe courſe of the ſigmoid flexure of the colon to the diaphragm, where it terminated. The right and left diviſions of the ſac communicated only in the pelvis, the ſpine of the back forming a barrier between them.

The ſack was formed by a ſeparation of the peritonæum from its adheſions to the poſterior part of the pelvis, and to the pſoas and intercoſtal muſcles, and to the ribs on each ſide; the ſeparated membrane being the anterior portion of the ſac, and the cellular ſubſtance to which it had adhered the poſterior. This was moſt probably effected by bile eſcaping from a rupture either of the hepatic duct, or of the *pori biliarii*, (the external covering which theſe parts receive from the peritonæum at the ſame time not being divided) and diſſecting its way behind the peritonæum, the ſeparation would be gradually made, and the ſack conſequently produced.

It is to be remarked, that the blow was received on the ſcrobiculus cordis, and this was alſo the ſeat of the pain at the commencement of the diſeaſe. The tenderneſs and deranged ſituation of the viſcera, from the preſſure and ſize of the tumour, rendered it impoſſible to detect any rupture which might have taken place either in the hepatic duct, or in the ſubſtance of the liver.

Inflammation had extended very generally throughout the cavity. The *omentum* adhered to the ſac and to the liver. The inteſtines adhered very ſtrongly to each other and to the peritonæum in contact. The inteſtines and peritonæum were covered with a thick layer of coagulated lymph of a dirty yellow colour, and in ſome parts were black and very eaſily torn. This ſtate is perhaps the neareſt the inteſtines approach to gangrene. The ſubſtance of the liver did not appear to be much diſeaſed; it was not harder, but was perhaps of a deeper red colour, and fuller of blood than in a natural ſtate. The coat of the ſuperior ſurface of the liver was thickened, and adhered to the peritonæum. The membrane covering the inferior ſurface of the liver was thickened,

thickened, and much diseased and discoloured to the extent of two inches diameter, close to the ductus hepaticus, and formed indeed a portion of the sac. Near the hepatic duct, and in the substance of the liver, were found fragments of bile in a solid state, and of a dark green colour, weighing perhaps from three to six grains. The gall bladder was contracted, and contained a small quantity of light yellow-coloured bile. The kidneys, spleen, and pancreas were not diseased.

An Historical View of Surgery in the Sixteenth Century.

[Continued from our last Number, pp. 278—281.]

§ 15. AMONG the most learned surgeons of that century, we may doubtless mention FELIX WUERZ, of Basel, whose Manual of Surgery, in German, is so judiciously written for the age in which he lived, and contains so many excellent principles, never before developed, that even modern surgeons might derive much information from this elementary work. His valuable Treatise on concealed Ruptures deserves particular notice among the multiplicity of subjects, as it is the only dissertation of the kind we possess. He also controverts, in a variety of passages, the prevailing prejudices of his cotemporaries, condemns the stitching up of wounds, as well as cauterization in hemorrhages, while he disapproves of the frequent examination of ulcers by the probe, and the use of dilators.

FRANC. DE ARCE, of Frejenal in Seville, who practised surgery at Llerena and Valverde, in Estremadura, was so celebrated for the cure of fistulous ulcers, that patients from all parts of France, Italy, and Spain came to him in numbers, for the cure of those troublesome complaints. He principally used gum guajacum, and, instead of the usual oleaginous remedies, he recommended a balsam of his own invention, known by the name of *Balsamus Arcaei*. In malignant sores, he applied the actual cautery, and recommended the use of the trepan; which, however, in very severe and extensive fractures of the bones, and particularly in very young children, he considered as an unnecessary operation, because in these the fractured bones frequently re-unite without the aid of art.*

The

* FRANC. ARCEUS, *a most excellent and compendious method of curing woundes in the head and in other partes of the body:* Translated by J. READ. Vol. II. c. 2. f. 29. b. Quarto. London 1588. This Translation is very little known, and is not even mentioned by HALLER. Prof. SPRENGEL obtained a copy of it from Prof. MECKEL, the Anatomist of Halle.

The celebrated anatomiſt, JUL. CÆSAR. ARANZI, Profeſſor at Bologna, wrote a Treatiſe on Ulcers, in which he firſt attempted to deſcribe the diſtortion of the penis ariſing from a varicoſe dilatation of the veſſels, after too frequent coition.* In hydrocephalus he beſtows much praiſe on the external application of the *Empl. diapalma*, which produces a warm and general perſpiration. The ſaccharine acid obtained from honey is, according to him, a mild cauſtic for removing the pterygium. He farther invented a peculiar forceps for the extirpation of naſal polypi, and was uncommonly ſucceſsful in the operation for fiſtul vaſculares. On the contrary, he treated aneuriſms merely with aſtringent remedies, without the operation; and for the cure of cancerous ulcers he ſimply ſuggeſted mild remedies, ſuch as the marſh-mallow root and oil of almonds.

§ 16. AMBROSIUS PARE' was unqueſtionably the moſt celebrated ſurgeon of the 16th century. He was a native of Laval, in the Province of Maine, had ſerved as ſurgeon in ſeveral wars, particularly in the third campaign of Francis I. againſt the Emperor in Italy, and he likewiſe accompanied Henry II. in the battles near Renti and S. Quentin. He was afterwards ſucceſſively firſt ſurgeon to the French Kings Francis II. and Charles IX. He gained the confidence of the latter to ſuch a degree that he was the only perſon ſpared, and for whoſe ſafety the King was perſonally intereſted during the maſſacre of the Huguenots at Paris, in the well-known night of St. Bartholomew. PARE' evinced his gratitude to the king by the moſt ſolicitous attention to his health, and by ſo ſtrict and honourable a fidelity, that even after the deceaſe of that monarch he expreſſed himſelf with a prudent and becoming reſerve, concerning the cauſe of his premature death.

Beſides the improved treatment of gunſhot-wounds, which he had the merit of introducing, together with many other peculiar methods in operative ſurgery, he has rendered eſſential ſervice to different branches of that ſcience. He treated, for inſtance, the hydrocele with a ſeton; as the dangerous conſequences of inciſion were in that age more frequently obſerved than they are at preſent. He did not apply the actual cautery to wounded blood-veſſels, according to the old practice, but ſecured them by the ligature. The fracture of the collum oſſis femoris, formerly conſidered as a luxation of that bone, was firſt aſcertained by him with accuracy: he alſo reprobated the frequent dreſſing of ulcers, and the application of the trepan to the ſutures of the cranium and the temporal bones

* AURANTIUS *de tumoribus præternaturalibus.* C. 50. p. 245.—4to. Venet. 1595.

bones. He made very judicious remarks on concuſſions of the brain, of which Henry II. died, and on ſuppurations of the liver, ariſing from injuries of the head. Wounds of the throat, in which one of the jugular veins, and even the trachea was cut through, he did not conſider as mortal. He ſucceſsfully treated an injury of the nervus medianus from veneſection, and thereby acquired the confidence of Charles IX. who had been ſubject to that dangerous accident. A perſon who, from loſing a great part of his tongue, had been ſpeechleſs for a conſiderable time, accidentally recovered the power of ſpeech, by thruſting a tableſpoon into his mouth: PARE' ingeniouſly imitated this method, by contriving an appropriate inſtrument.

§ 17. JACOB GUILLEMEAU, of Orleans, firſt ſurgeon to Henry the Great, and ſuperintendant of the Hôtel-Dieu, was a pupil of PARE', and obtained reputation in the chirurgical world, chiefly by his improvements of the trepan. In order to prevent any injury of the brain and its membranes, in the application of the inſtrument, he fixed a *chapperon* under the crown of the trepan, by which its deſcent on the membranes of the brain ſhould be checked; or he cauſed the crown of that inſtrument to be circularly indented, that the teeth may be uniformly applied to the bone, and thus prevent its deſcending farther than is neceſſary. This improvement was cenſured by JOH. PETER PASSERO, a ſurgeon of Bergamo; becauſe the circumference of the bone was thereby made too rough to favour a ſpeedy re-production of new ſubſtance: this addition to the trepan has, however, in later times, been almoſt generally adopted. But the *chapperon* of GUILLEMEAU is, in reality, an inconvenient and uſeleſs part of the inſtrument inſomuch that even after the late improvements attempted by KLINDWORD, it cannot be employed with advantage. The former made uſe of the exfoliating trepan in thoſe caſes where only the upper table of the cranium was injured, and where it became neceſſary to remove the blood ſtagnating in the *diploe.* When the *dura mater* was laid bare, and the pus could be freely diſcharged, GUILLEMEAU conſidered the application of the trepan altogether unneceſſary. The veſſels diſſected in amputation, if accompanied with ſphacelated parts, he treated with the actual cautery; while, in the contrary caſe, he applied the ligature. The paracenteſis he performed at the diſtance of three fingers breadth below the umbilicus, in a lateral direction; which, however, in ſome caſes, might be too near the navel. He deviated from the principles of his teacher in performing a radical cure of the hydrocele, and preferred the inciſion into the *tunica vaginalis teſtis* to the ſeton and the cauſtic. Another cotemporary ſurgeon,

FRANCO,

FRANCO, on the contrary, reforted to the *point doré*, or the lacing up the fwollen parts with golden threads, without injuring the feminal veffels. GUILLEMEAU was an excellent operator for aneurifms, and he removed varicofe nodules with cauftics, for which he particularly recommended his favourite *cautere de velours*, prepared from the lees of foap-boilers; while FRANCO employed the actual cautery even in varicocele. In necrofis, Guillemeau likewife applied this violent remedy.

JOH. TAGAULT, of Amiens, who taught furgery both at Paris and Padua, is the author of a Compendium,* which, however, confifts chiefly of an improved edition of that previoufly publifhed by GUY OF CHAULIAC.

§ 18. JOH. PHILIP INGRASSIAS, of Rachalbuto, in Sicily, was a great anatomift who fucceffively filled the Profefforial Chair at Padua, Naples, and Palermo, and was appointed, by King Philip II. director of medicinal affairs in the Two Sicilies. He wrote a fyftematic work on ulcers, in which he added to the fixty-one kinds defcribed by GALEN, 165 new fpecies; but among thefe he included many chirurgical difeafes which were improperly placed in that clafs. Among other errors, we may notice an obfervation occurring in his "*Iatropologia*," p. 170 (8vo. Panorm. 1546), in which he confiders a fracture of the trochanter as a fimple luxation. In the capacity of fuperintendant of medical affairs, he fo far reftricted the free exercife of the chirurgical art, that furgeons were obliged to proceed in their method of cure confiftently with the indications formed by phyficians. The caufes of this reftriction he fully explained in a particular work, where, among other modes of treatment peculiar to himfelf, he advifes to perform amputation in the mortified part, and to cauterize the found contiguous parts. He alfo wrote the hiftory of the difeafe, of which he cured the Duke of Terranuova, when feveral phyficians of great eminence were confulted, whofe opinions he communicated in a work, entitled, "*Ducis Terranovæ cafus enarratio et curatio;*" 4to. Venet. 1568. The difeafe here alluded to was a fracture of the ribs combined with an empyema, for which INGRASSIAS fuccefsfully employed the guajacum and cauftics.

JOH. BAPT. CARCANO LEONE, of Milan, and Profeffor in Pavia, wrote a very imperfect work on wounds of the head, though he was a pupil not altogether unworthy of the great FALLOPIUS. Befides other proofs of his defective judgment, this work contains inftructions for dividing

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* *Tagaultii de Chirurgica Inftitutione, lib.* vi. 8vo. Venet. 1549.

viding fractures of the cranium by wooden wedges, to promote the evacuation of pus. He raised the depressed bones with instruments; and cautions the reader against the application of the trepan. The removal of a part of the cortical substance of the brain is to him a dreadful attempt, and he at length ingenuously acknowledges, that he never succeeded in curing wounds of the head.

The theory and practice of curing the diseases of the eye were very little improved in that century; though towards its close there appeared a peculiar and celebrated work on the disorders of that organ, by George Bartisch, of Königsbrück, oculist to the Electoral Court of Saxony. His propensity to superstitious opinions was so great, that he recommended strict attention to the influence of the planets, before any operations on the eyes could be undertaken with safety, or advantage. His theory of the cataract he had borrowed from the Arabian writers; and he admitted the existence of a film or web, which descends from the brain into the aqueous humour of the eye. According to him, there are five species of cataract; namely, the white, grey, blue, green, and yellow. He also asserts, that he has frequently observed the gutta serena to be an hereditary disease; and in every instance he advises the practitioner to puncture or press it down with a perfectly straight conical needle. For the cure of *ptosis*, he proposes an instrument, by which the skin of the eye-lid is compressed between two plates. Verduyn has made an improvement on this instrument.

[To be concluded in our next Number.]

A Concise History of the Principal Discoveries in Anatomy.

[Continued from our last Number, pp. 281—282.]

§. 19. SIX years had elapsed after the publication of Serveto's work, mentioned in the preceding number, when Columbus, with great ostentation, according to his usual method, maintained that the doctrine of the smaller circulation of the blood through the lungs was his own discovery. We cannot, however, deny him the merit of having given a more distinct account of this important subject than Serveto himself, who merely speaks of pure blood, while Columbus maintains that the blood, mixed with animal spirits, returns from the lungs. Aranzi, speaking on this subject, candidly owns the difficulties which have induced him to disagree

with

with COLUMBUS, and yet to hesitate in embracing the opinion, that the blood could exude or penetrate through the solid septum, from the right to the left ventricle of the heart. And if it should be granted that such an exudation were possible, or even really took place, he could not conceive why the blood did not *return* also to the right ventricle of the heart, through the same holes or pores hypothetically admitted, and thus perhaps disturb the order of nature. It was also inexplicable to him, what purpose the coronary veins, and still more the great pulmonary artery, could answer, if the blood was merely to penetrate through the septum from one ventricle into the other: nor could he comprehend why the pulmonary artery should be so capacious and extensive, if it were designed to convey only the air from the lungs, and not to conduct, at the same time, the blood to the heart. Nay, we even frequently find, after death, the pulmonary artery quite full of blood; and also the valves on the pulmonary veins and arteries. In short, it is obvious, that ARANZI is doubtful, which side of the question he ought to embrace; and he concludes with the common-place remark, "that many things happen in this sublunary world, of which philosophers could scarcely dream." VAROLI was also acquainted with the relation subsisting between the pulmonary artery and the pulmonary vein; but he does not enter upon a distinct explanation of the functions of these vessels.

ANDR. CAESALPINUS, of Arezzo, first physician to the Pope, was the next author who wrote a very detailed treatise on the passage of the blood through the lungs. He acquired very great reputation, by the original manner in which he illustrated the principles of the peripatetic philosophy, and by the contest he maintained on this subject with TAURELLUS.* CAESALPINUS proceeds on the principle, that the heart is not refrigerated during respiration; for, in cold water, the heart of animals is very soon deprived of its vital power, which it retains much longer in warm water; and, according to him, the lungs merely serve to cool the heated blood. This blood flows from the right ventricle of the heart into the pulmonary artery, and from this, by means of numerous anastomoses, it returns through the pulmonary vein to the left ventricle of the heart. The branches of the trachea run collateral with the ramifications of the pulmonary veins: the former do not form anastomoses with the latter, but merely serve, by the contact with atmospheric

* Compare the work entitled, "*Memorie degli uomini di Toscana,*" vol. i. p. 93; also BAYLE, vol. ii. p. 118.—BRUCKER, vol. iv. p. 220; and NICERON *Memoires*, vol. xlii. p. 164.

air, to cool the sides of the vessels containing venous blood, and consequently that fluid itself. He farther asserts, that it is absurd to call the pulmonary artery *vena arteriosa*, merely because it, like the *vena cava*, is situated near the right ventricle of the heart; it is nevertheless a true artery, and bears the greatest resemblance to the *aorta*: the name of *arteria venosa*, which has been given to the pulmonary vein, is equally inconsistent; as this vessel, notwithstanding its termination in the left ventricle of the heart, possesses all the properties of a vein.

Although CAESALPINUS had such accurate ideas on the smaller circulation, he admits the exudation of the blood through the septum cordis.* This passage, however (in the opinion of Prof. SPRENGEL), very clearly demonstrates, that this learned physician was perfectly acquainted with the circulation of the blood through the lungs. CAESALPINUS *likewise conceived the great circulation of the fluids through the whole body*, the knowledge of which he certainly could not acquire from the works of either FABRICIUS or HARVEY; for we find remarkable proofs of this assertion in his other works. He first remarked the swelling of the veins between their terminations, and an applied ligature; whence he concluded, that the opinion commonly received, with respect to a progressive motion in the veins, rested upon an erroneous conjecture. But in the same passage he still indulges in speculations, which led him to compare the circulation of the blood through the veins to the flux and reflux of the sea; and not being acquainted with the valves which must necessarily obstruct the *retrograde* course of the blood through the veins, he does not appear to have had clear and fixed ideas on the subject.† In another work, however, he treats of the mere reflux of the blood through the veins, with such precision, that Prof. SPRENGEL would not hesitate a moment to consider him as the discoverer of the great circulation, if he were more consistent in his assertions, and if he had set out with the discovery of the valves in the veins. The following passage, which occurs in the work of CAESALPINUS "*De Plantis*," 4to, printed at Florence in 1583, is submitted to the consideration of the reader, whether, and how far, this author is entitled to that honour: "*Qua autem ratione fiat* "*alimenti attract nutritio in plantis, consideremus. Nam in animalibus* "*videmus alimentum per venas duci ad cor, tanquam ad officinam caloris* "*insiti, et adepta inibi ultima perfectione, per arterias in universum corpus* "*distribui, agente spiritu, qui ex eodem alimento in corde gignitur.*" Lib. I. c. 2.

* CAESALPINI *Quæstiones Peripateticæ.* lib. v. s. 4. p. 528. (Folio, Lugdun. 1588.)

† CAESALPINI *Quæstiones Medicæ*, lib. ii. cap. xvii. f. 234. (Quarto, Venet. 1593.

c. 2. p. 3.—Prof. SPRENGEL candidly adds, that his veneration for the immortal HARVEY is too great to harbour the most distant suspicion, that this illustrious character would have condescended to usurp the honour of a discovery, if he had known, that an earlier inquirer had already anticipated the merit. It is, however, surprising that FABRICIUS,* the excellent anatomist, had not more perspicuous ideas on the functions of the pulmonary vessels, and that he was so invariably attached to the established errors and prejudices of his predecessors.

§ 20. The circulation of the blood in the human fœtus was so thoroughly and successfully examined during the sixteenth century, that the *foramen ovale* between the two auricles of the heart was soon discovered by anatomists: they also observed that this foramen in the embryo leads from the cyst of the vena cava to the cyst of the pulmonary vein, and that it is closed by a valve which prevents the reflux of the blood; but that, in adults, it forms a cavity which is surrounded by an isthmus, and which is almost completely impermeable. This course of the blood in the fœtus had already been noticed by GALEN;† and the passage below alluded to is so conclusive, and at the same time proves that this ancient writer possessed so correct a knowledge of the structure of the infantile body in the womb, that we cannot withhold from him our admiration. But GALEN had made still greater progress; he was acquainted with the arterial canal that receives and immediately conducts to the aorta the blood which proceeds from the head as well as the upper extremities of the child, and which cannot pass through the umbilical veins, nor through the foramen ovale, but which flows through the ascending vena cava into the sinus cordis dexter. GALEN was no stranger to this particular branch of the pulmonary artery; but he did not clearly understand its destination.

After the time of GALEN, FALLOPIUS was the first author who gave a distinct description of it; but he certainly betrayed his want of attention, by asserting that this branch proceeded as far as the ventricle of the heart; nor was he correct when he maintained that the blood from the aorta flowed through this channel, into the pulmonary artery, and into the heart, as it takes the direct contrary course.‡ VESALIUS himself had at first no knowledge of either the foramen ovale, or the arterial canal, and consequently does not mention them in his larger work. But after FRANC. ROTA had intimated to him in a friendly epistle,

* See his work "*De Respiratione*," cap. xii. p. 184.

† *De Usu Part.* lib. xvi. p. 533.

‡ FALOPII *Observat.* p. 399.

epiſtle, that the deſcription of theſe parts of the embryo which were ſo well known to Galen, is reluctantly omitted in his claſſical work, the attention of Vesalius was thus rouſed: he afterwards mo.e carefully examined theſe parts, diſcovered the valve in the foramen ovale, as well as the arterial canal,* and regrets in the paſſage here referred to, that he had not ſooner applied himſelf to this important inquiry.

The next anatomical writer was Aranzi, who publiſhed a detailed and authentic hiſtory of the foramen ovale, of its valve, of the concretion of the former which takes place after birth, of the arterial canal, and its ligamentous ſtructure in adults. But he likewiſe erred, as well as Fallopius, in maintaining that the blood is conducted through this canal from the aorta to the lungs and the heart.

After theſe celebrated men had illuſtrated this ſubject, in a manner reflecting credit on the age in which they lived, there appeared a pſeudo-diſcoverer of the name of Botalli, a pupil of the great Fallopius, and who arrogantly appropriated to himſelf the reſpective diſcoveries of the foramen ovale, and the arterial canal: nay, ſome authors have, either from falſe liberality or ignorance, called theſe parts after his name.

Varoli deſcribes the foramen ovale and the arterial canal, in a manner exactly ſimilar to that of his predeceſſors, and commits the ſame error with reſpect to the deſtination of the latter.† Carcani adds no original remarks to the deſcription of theſe parts, except the obſervation, that the arterial canal in the embryo is two fingers breadth from the baſis of the heart; while in adults it is four.‡ Alberti,§ Ulmus,|| and Du Laurens¶ made no improvements upon the previous deſcription given by Fallopius. It is to Fabricius we are indebted for the firſt drawings of theſe parts, which, with the exception of the ſixth plate, fig. 15, E. F. repreſenting the arterial canal, are faithful copies of nature.

The anatomiſts of this century beſtowed conſiderable attention on the courſe of the venous duct, which empties itſelf from the umbilical vein into the vena cava, or into the hepatic vein. Vesalius diſcovered this duct, and ſtated it to be only half the ſize of the umbilical vein from which it takes its origin.** Soon after it was diſcovered, Eustachius

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* *Veſal. Exam. Obſervat. Fallop.* p. 798.

† *Varoli Anatomia*, lib. iv. c. 5 p. 108.

‡ *Carcani Anatomià*, p. 14. s. 28. 34. s.

§ *Alberti Hiſtoria Anatomia*, p. 155.

|| *De Liene*, f. 21. 6. (Quarto, 1578.)

¶ *Laurent. Hiſtor. Anatom.* lib. viii. Quæſt. 27. p. 684.

** *Veſal. Exam. Obſervat.* Fallopii, p. 798.

CHIUS cauſed an accurate repreſentation of it to be publiſhed.* ARANZI obſerved a double duct of this kind, one leading to the vena portæ, the other to the vena cava; the latter has been denominated after him the venous duct of ARANZI.† FABRICIUS has furniſhed a more diſtinct delineation of this canal than his rival EUSTACHIUS.‡

[To be continued in our next Number.]

On the Treatment of Febrile Diſeaſes, by Dr. EDWARD MILLER, *of New York.*

[Extracted from a Paper of the ſame Author, "*on Cutaneous Perſpiration, and the Operation and Uſes of Specific Remedies.*" Comp. our Journ. Vol. I. No. III. p. 287.]

AFTER attempting to reſtrict the uſe of ſudorific remedies to ſuch narrow limits, it may not be improper to recall the reader's attention to a ſubſtitute better adapted to the nature, circumſtances, and varieties of fevers. This ſubſtitute is water, of various temperature, taken into the ſtomach, injected into the bowels, and applied to the ſurface of the body. Many endeavours have been made to bring this ineſtimable remedy into more common uſe; hitherto, indeed, without much ſucceſs; but it is to be hoped that the time now approaches, when its efficacy will no longer be diſdained on account of its ſimplicity and cheapneſs.

The cauſes of fever would be infinitely leſs pernicious to the ſyſtem, if the fever itſelf were repreſſed in its firſt movement, or annihilated in embryo. The cool treatment of the ſmall pox, gives an example of this ſuppreſſion of a diſeaſe; but phyſicians have never yet ſufficiently availed themſelves of the inſtruction it affords. Notwithſtanding all the complicated maxims and rules of medical practice, the genuine treatment of fevers is ſimple; it chiefly conſiſts in reducing the heat of the ſyſtem, when too high, and increaſing it when too low: the former will allay the exceſſive action, which threatens organic deſtruction of the more important and delicate viſcera, or an eventual exhauſtion of the principle of life; and the latter will obviate ſuch accumulation of excitability, as may endanger the ſyſtem from the violence of ſubſequent re-action.

[To be concluded in our next Number.]

* *Euſtach. Tab.* xvii. fig. 1. (w.)
† *Arant. de human. foetu.* c. 14. p. 40.
‡ *De format foetu,* Tab. vii. fig. 16. (j.) Tab. viii. fig. 17. (c.)

HINTS AND IMPROVEMENTS

IN THE PRACTICE OF

MEDICINE AND SURGERY.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

ONE of your readers has solicited communications respecting the late introduction of yeast into the practice of medicine; should you, therefore, deem that the following remarks may have a tendency to induce others to investigate a practice which appears to be at least harmless, if not actively beneficial to those who suffer under the languor and wearisomeness of fever, you will, by their insertion, much oblige one who has long admired your valuable labours.

During three months of last year, I was called upon in routine, as one of the physicians to our Dispensary, to attend the Work-house of this town, among the children of which a fever had broken out to an alarming degree. Being encouraged by previous success, yeast was ordered to be administered in doses of from two tea spoons full to a meat spoon full three or four times a day; at the same time, the usual treatment observed with respect to the other invalids was extended to these. In a few days, on the comparison, I had the pleasure to observe some of our little patients much benefited by it; and was particularly struck with the speedy convalescence of one, whose symptoms had been most distressingly stationary.

The fevers of these children had, in several instances, been accompanied with a very remarkable dilatation of the pupils, and an inirritability of the iris to the stimulus of light, nearly approaching to that of amaurosis. In other instances, the embarrassing symptom of local inflammation proved considerably alarming. In both descriptions of patients this practice appeared serviceable; in the former of which, the return of the iris to its natural state, together with somewhat more of the healthy lustre of the eye in general, were among the first symptoms of convalescence; this even took place before the commencement of appetite, or entire abatement of thirst. In one patient, the retina became

came too sensible to light. Some of these young sufferers, though at first averse to its administration, after a few doses reminded the nurse of it, as though apprehensive lest it should be omitted. A conspicuous advantage gained, was, that anodyne draughts became now superfluous, the irritability of the system being diminished. In those fevers accompanied with topical inflammation, on the whole, advantage resulted from it. Yet, in one case, the inflammatory symptoms, which were pulmonary, advanced so rapidly as to cause me to decline its continuance, till these symptoms were subdued; afterwards it was given without inducing a return of inflammation. In this case, the digitalis in tincture, combined with a few drops of T. opii, was of decisive benefit. That the increase of these symptoms had any connexion with the use of the yeast, a solitary fact will not warrant the conclusion.

The bowels were not affected by it, nor did the pulse alter for some days; yet I thought the cutaneous heat was relieved, though of this I speak with diffidence, as cold ablutions were strictly attended to, where requisite; a practice which cannot be too highly extolled, and which has been so ably treated of in a late very elegant and truly valuable publication.

In the first fever wherein I adopted this practice, the patient, a young woman of 19, of ruddy complexion, naturally plethoric, and liable to inflammatory ailments, was informed of its origin, and that it was far from being commonly in use, but that it would at least be harmless. The family possessing more good sense and energy of mind than generally happens to the uneducated, made none of those frivolous objections so often met with, where a patient is trusted with the knowledge of the medicine prescribed. She had taken the infection from her sister, whose case had been truly deplorable, and nearly desperate. The sisters were obliged to lie in one bed, and their diet had been latterly poor, as the mother was afflicted with dysentery during and prior to the sickness of her two fatherless daughters. Being patients belonging to the Dispensary, and the emetic which was ordered previously to any other medicine being lost, the circumstance was concealed till after recovery. She dreading a situation similar to that of her sister, whom she had watched night and day with all the assiduity of affection, took yeast to the amount of a meat spoon full four, five, and sometimes six times a day: Her natural colour returned in about five days; and, to my surprize, I found her affected with a slight, though complete cynanche tonsillaris; on which I omitted the medicines, and ordered merely gargles with an external

ternal liniment; and in a few days she was again able to return to the duties of a nurse to her sister, which the mother, though now recovered, was scarcely equal to perform. Some have complained much of an uneasy sense of distention arising from the medicine, a circumstance which has caused more than one patient to relinquish its use, as did this person on the last day of her taking it. I ought to add, that in some instances disappointment has attended its exhibition, though, save in hospitals, we cannot rely on the adoption of a practice which popular prejudice ridicules, or starts at. In some instances I have no doubt but deception has been practised. In a case of cynanche maligna, as a gargle, and internally administered, I thought it aided other remedies.

The case of the young woman recorded, if confirmed by future observations, will be replete with information.

ROBERT LEWIN.

LIVERPOOL, *Oct.* 12, 1799.

Observations on the Nature and Cure of the Gout.

IN the fifth volume of the "*Medical Inquiries and Observations,*" by Dr. BENJAMIN RUSH, of Philadelphia, lately published, we meet with a number of striking and original remarks on that Proteus-like disorder. The conductors of the "Medical Repository" having, in the third number of their second volume, anticipated the account of this valuable work, we shall here avail ourselves of their labours, and furnish our readers with the following extracts on this subject.

So much has been offered to the public, concerning the Gout, by various authors, and at different times, that, if the actual developement of the disease had kept pace with the exertions made for this purpose, the subject might be now supposed to be nearly exhausted; on the contrary, the unsuccessful treatment of it has long been the reproach of medical imbecility; and whoever can throw any new light on this disease, will perform an acceptable service to that large class of society subjected to its tortures.

The author begins his observations on the gout, by delivering the following preliminary propositions: That it is a disease of the whole system;—that it is a primary disease only of the solids;—that it affects

fects most frequently persons of a sanguineous temperament; sometimes the nervous and phlegmatic, the idle and luxurious, rather than the temperate and laborious; and women as often as men, though commonly under feeble forms of morbid action, and not so often in their feet and limbs;—that its hereditary quality depends upon the propagation of a similar temperament from father to son;—and that it is always induced by general pre-disposing direct or indirect debility.

The remote causes of the gout, which induce this debility, are, indolence, great bodily labour, long protracted bodily exercise, intemperance in eating and in venery, acid aliments and drinks, strong tea and coffee, public and domestic vexation; the violent or long continued exercise of the understanding, imagination, and passions, in study, business, or pleasure; and lastly, the use of ardent and fermented liquors. The exciting causes of this disease are frequently a greater degree, or a sudden application of the remote and pre-disposing causes: To which may be added, sudden inanition from bleeding, purging, vomiting, and fasting; also cold, the debility left by the crisis of a fever; and all these aided by the additional direct debility induced upon the system by sleep; and the proximate cause is morbid excitement, accompanied with irregular action.

The gout affects most of the viscera. In the brain, it produces head-ach, vertigo, coma, apoplexy, and palsy. In the lungs, it produces pneumonia vera, notha, asthma, hæmoptysis, pulmonary consumption, and a short hecking cough. In the throat, it produces inflammatory angina. It affects the kidnies with inflammation, strangury, diabetes, and calculi. But of all the viscera, the liver suffers most from the gout; it produces in it inflammation, suppuration, melaina, scirrhus, gall-stones, jaundice, and an habitually increased secretion and excretion of bile.

The gout affects the alimentary canal from the stomach to the rectum. Flatulency, sickness, indigestion, pain, or vomitting, usually usher in a fit of the disease. Sick head-ach and dyspepsia are often the effects of this disease, concentrated in the stomach. The author asserts, he has seen a case in which the gout, by retreating to this viscus, produced the same burning sensation which is felt in the yellow fever. Cholic, dysentery, diarrhœa, piles, and a troublesome itching in the anus, are often produced by this disease.

This disease also affects the glands and lymphatics. It has been known to produce a ptyalism, and a bubo in the groin. The scrophula,

and all the various forms of dropsy, have been observed as the effects of its disposition to attack the lymphatic system.

Cases of the gout affecting the skin have been often recorded: Erysipelas, gangrene, and petechiæ, are the acute; tetters and running sores the usual chronic forms in which it invades this part.

Even the bones are not exempted from the ravages of the gout. The bones of the hands and feet have been sometimes dislocated by it; and one instance occurred of its dislocating the thigh bone.

In the next place, the author proceeds to treat of the method of cure. The remedies for the gout naturally divide themselves into the following heads: 1. Such as are proper in its approaching or forming state. 2. Such as are proper in *violent* morbid actions in the blood-vessels and viscera. 3. Such as are proper in a *feeble* morbid action in the same parts of the body. 4. Such as are proper to relieve certain local symptoms not accompanied by general morbid action. And, 5. Such as are proper to prevent its recurrence, or to eradicate it from the system.

1. The symptoms of an approaching fit of the gout, are languor, dulness, doziness, giddiness, wakefulness, or sleep disturbed by vivid dreams; a dryness, and sometimes a coldness, numbness, and prickling in the feet and legs; occasional chills, acidity, and flatulency in the stomach; with an increased, a weak, or a defective appetite. During the existence of these symptoms, the disease may be easily prevented by the loss of a few ounces of blood, or by a gentle dose of physic; and afterwards by bathing the feet in warm water, by a few drops of the spirit of hartshorn, a draught of wine-whey, or an opiate. To these remedies, it is conceived, an emetic might be very properly added; as the affection of the stomach is so steadily observed at the approach of the disease, and as the analogy of fever would strictly warrant the practice.

2. Among the remedies proper in cases of great morbid action in the blood-vessels and viscera, our author chiefly relies upon blood-letting. He combats with decisive force the objections to this remedy, urged on the ground of the gout being a disease of debility, and that bleeding disposes to more frequent returns of it. He states the advantages of it to be the removal or lessening of pain;—the preventing of congestion and effusion in the more important viscera;—the preventing of the premature wearing out of the system, and the shortening of the duration of the fit. Among the remedies of this head, he also enumerates cathartics, emetics, nitre, cool or cold air, and sometimes cold water applied

to

to the inflamed part; the antiphlogistic regimen with respect to diet, blisters, and the operation of fear and terror. Cautions are suggested with respect to the use of sweating, opium, and several local applications. Blisters and caustics, as well as molasses, applied to the part affected, are much commended. The early exercise of the lower limbs, by walking, is also particularly enjoined.

3. The author next enumerates the remedies proper in that state of the gout in which a *feeble* morbid action takes place in the blood-vessels and viscera. They are opium, Madeira or sherry wine, porter, ardent spirits in the form of grog or toddy, æther, volatile alkali, aromatics, oil of amber, Peruvian bark, the warm bath, mercury given to the extent of ptyalism, and the local application of frictions with brandy and volatile liniment, blisters, and stimulating cataplasms.

4. The local symptoms of the gout are directed to be treated upon the common principles which are to be found in practical books.

5. The means of preventing the return of that state of the disease which is accompanied with violent action, are temperance, moderate labour and exercise, the avoiding of cold, moderation in the exercise of the understanding and passions, moderation in venereal indulgences, the avoiding of costiveness, and a stricter abstinence, as well as an attention to occasional evacuations by bleeding, &c. in the spring and autumn.

In the last place, the author mentions the remedies proper to obviate a return of that state of gout which is attended by a feeble morbid action in the blood-vessels and viscera. These are a gently stimulating diet; the use of chalybeate medicines; the volatile tincture of guajacum; the uniform application of warmth; the warm bath in winter, and the temperate or cold bath in summer; exercise; the avoiding of costiveness; the constant and agreeable employment of the understanding and passions, but without fatigue of body or mind; and, lastly, migration to a warmer climate.

We have thus delivered an outline of this valuable practical performance, in which the learned author has exploded much pernicious error, and introduced, illustrated, and forcibly enjoined, many important truths. The perusal, however, of the work itself, will afford a gratification which no reader can expect from this imperfect sketch.

On the Origin and Prevention of ſome of the Diſeaſes of Human Teeth and Bones. By Dr. MITCHILL, *of New-York.*

IN the ſeventh Number of this Journal, under the ſection containing " Medical and Phyſical Intelligence," p. 183 and ſeq., we have already communicated to our readers the introductory part of an ingenious paper, " *On the Application of the Doctrine of the Septic Fluids, to explain ſome of the Diſeaſes of Human Teeth and Bones.*" As the ſubſequent part of this inquiry is more immediately connected with medical practice than that formerly inſerted, we think it entitled to a place in this department of our Journal.

Phoſphoric acid prefers lime to alkalis, and therefore alkalis united with it are immediately rendered turbid by lime-water; and a ſaline powder, very difficultly ſoluble in water is depoſited, conſiſting of lime ſaturated with phoſphoric acid. Alkalis, therefore, whether fixed or volatile, would ſeem to be incapable of deſtroying the ſolid matter of the teeth, whatever their action may be upon the gums. Lime may be diſengaged from its connexion with phoſphoric acid by the oxalic, ſulphuric, ſeptic (nitric), and tartaric acids. Conſequently, acid of ſugar, ſpirit of vitriol, aquafortis, and cream of tartar, may decompoſe the teeth, by attracting the lime, and diſengaging the phoſphoric acid. The ſeptic acid, after barytes, pot-aſh, and ſoda, has the next ſtrongeſt attraction for lime, and after this for magneſia, ammoniac, and clay.

Thus ſeptic acid, if formed from the remains of animal and vegetable ſubſtances, lurking about or among the teeth, in attaching itſelf to the lime, will detach the acid of phoſphorus. This, added to the matters already emitting their ſcents, will have a tendency to increaſe the offenſiveneſs of the breath.

Whatever contributes to the accumulation of the matters from which ſeptic acid is produced, may be expected to injure the teeth. Hence lying-in-women, and perſons ſuffering long fits of ſickneſs, are particularly expoſed to the cauſes which deſtroy them; and this the more eſpecially, becauſe, in ſuch ſituations, it often happens that little or no aſſiſtance is afforded by art, in removing thoſe things which, by their preſence and accumulation, occaſion the miſchief. When formed in the mouth, it may mingle likewiſe with the ſpittle, and vitiate the *guſtatory powers of the tongue and palate*, and, when ſwallowed, may impede the healthy *functions of the ſtomach*. Hence may be explained one ſpecies of anorexia,

anorexia, especially that mentioned by DARWIN (2. Zoonomia, class ii. ord. 2. gen. 2. sp. 1.), where "want of appetite is sometimes produced by the putrid matter from many decaying teeth, being perpetually mixed with the saliva, and thence affecting the organ of taste, and greatly injuring the digestion." The formation of such a substance in the mouth enters deeply into the explanation of the symptoms of fevers, particularly the condition of the teeth, gums, tongue, and throat; with vitiated taste, thirst, aphthæ, colour of the tongue, &c.

If an incrustation containing septic matter is thus formed, and is a calcareous composition, of a kind different from the teeth, it is possible to remove it by chemical agents, which have not the power of decomposing the teeth; for as barytes, pot-ash, and soda, can disengage the *septic acid* from the lime, so either of these substances may be serviceable in removing the concretion, and, at the same time, not endangering the teeth, whose *phosphoric acid* having a greater attraction for lime than for alkalies, is incapable of being displaced by them. Alkaline dentifrices would, therefore, appear capable of removing the calcareo-septic incrustations from the teeth, but incapable of corroding the teeth themselves. DEBOZE observes, that tobacco ashes (*La Pratique de Medecine de Laz. Reviere*, &c. L. vi. ch. 2) possess a surprising (tres-merveilleuse) power to cleanse and whiten the teeth. The active ingredient must be the pot-ash. The practice of some ladies of New-York confirms this.

As the septite of lime, however, is very deliquescent, there is, perhaps, only a moderate portion of the septic acid contained in the stony tartar of the teeth. There is another form in which it is peculiarly destructive. Dentists distinguish tartar into three species, viz. the *yellow*, the *black*, and the *green*: of these, the last is observed to be by far the most pernicious; it never forms a crust or petrifaction, but always appears like a *green stain*. The enamel of the teeth beneath it is generally corroded, and almost always eaten through, or destroyed. This is, doubtless, owing to the *septic acid* formed under the edge of the gum, or between the teeth, from the remains of food containing septon, which, aided by the heat and moisture of the mouth, affords that poisonous and destructive fluid, by uniting with oxygen. Dr. MITCHILL believes, that a small portion of this acid, formed thus in the mouth, and adhering to a sound tooth, is the cause of that violent and sometimes fatal disease, consequent upon transplanting these bony substances into the bleeding jaws of another person. The cases are seldom or never venereal.

But

But the septic acid formed in these instances, by corruption on the surface of a tooth, poisons the patient of the dentist when inserted into the fresh socket, in the same manner that it poisons dissectors when their wounded fingers receive it from the surface of a putrefying muscle.

The safe method of preparing teeth for transplanting, is to wash them repeatedly, *before* extraction, with a weak solution of carbonat of potash, in water, to remove the septic acid and other foul matters. This is, doubtless, preferable to washing the tooth in alkaline ley, *after* it has been drawn, as thereby its capability to grow fast would be endangered.

The septic acid being thus capable of corroding the teeth and the alveolar processes of the jaws, who shall affirm that its operation stops there? Is it not taken in with our air, food, and drink? Are there not instances of nodes and excressences of bones, that are not wholly unlike the incrustations of the teeth? And are there not likewise instances of caries of the osseous parts, which have a near similitude to the rottenness of the instruments employed in chewing our food?

In addition to the diseases of the teeth and their sockets, from septic acid produced in the mouth, as already stated, and partly upon the interpretation of the facts of Mr. HUNTER; it would be very easy to quote many authorities from books. Instead, however, of displaying much reading, Prof. MITCHILL contents himself with referring to the authority of an intelligent and skilful surgeon, Mr. Russell, who published, in 1794, a Practical Essay on Necrosis, wherein a bone or part of a bone dies, and a new one is re-produced to supply its place. The *lower jaw-bone* is frequently disordered in this manner, (p. 87); its death and separation often take place from *disease in the teeth and gums*; which, from their situation, naturally determine the complaint to begin at the upper part, and proceed downwards, (p. 80); and cases of necrosis of the lower jaw may be traced to be the effects of blows, and of *tooth-ach*, especially if a violent attack of inflammation has been excited by the application of any *acrid substance* to a carious tooth, &c. (p. 98); and seldom happen to persons under 30 years of age, (p. 93).

It would seem, therefore, that the reasoning is fair and safe, to consider this caries of maxillary bone as of a nature quite similar to the decomposition of the teeth and disordered condition of their sockets, which has been shown to be connected with the formation of septic acid in the mouth, and its corroding effect there.

[To be concluded in our next.]

MEDICAL

MEDICAL AND PHYSICAL

INTELLIGENCE,

(Original and Selected.)

Observations on Soda, the Alkaline Basis of Animal Gall and of Sea-Salt, and the Effects it produces in the Concoction of Food, and in preserving Provisions; in a Letter from Dr. MITCHILL TO JAMES WOODHOUSE, *M. D. Professor of Chemistry in the University of Pennsylvania, dated New-York, Dec.* 23, 1798.

FROM the facts stated in his former essays, Dr. MITCHILL thinks the antiseptic powers of alkaline earths and salts are incontestibly established. These substances seem to have been produced, in the œconomy of nature, to make a stand against that predominant acidity, which, without their interference, would threaten the animated world with ruin.

But alkaline substances are not only strewed over the face of the earth to exercise their neutralizing operation there; *soda* exists in the waters of the ocean, combined with muriatic acid, and in the gall of animals, united to an inflammable resin. And both sea-water and bile excite, though in different degrees, a bitter taste.

Many animals that have plenty of gall are greedy of sea-salt; even wild creatures in the American woods can be tempted by it to approach a man who carries salt in his hand. The instinctive appetite for this substance is a very remarkable thing, and is worthy of particular consideration. Sea-salt has been denominated *muriat of soda;* and for the sake of uniformity, and to make the subject a little clearer, Dr. MITCHILL, for want of a better name, and without contending for the propriety of it, calls bile, or gall, the *bitter of soda.* It cannot be improper to make an approximation in terms, where there exists a strong analogy in nature.

Dr. M. remembers, ever since his childhood, the custom of American bandmen to save the gall of the beeves they slaughtered for family use in autumn. A piece of the liver was cut out with the whole gall-bladder, and generally hung up on a neighbouring tree. Perhaps it was carried into the kitchen and stuck up there, or, perhaps, remained in the tree until the next summer. In either case, whether exposed to culinary warmth or wintry cold, the contents of the cyst underwent no sensible change, saving a thickening by the drying away of its moisture. There was never any putrefaction or sign of taint. The use for which they kept it was for plaisters to put on the feet of their children and labourers when wounded by nails and thorns; and Dr. M. questions whether pharmacy can furnish a better one.

In respect, then, to its uncorruptibleness, the bitter of soda has a near resemblance to the muriat of soda; that is to say, it will remain an indefinite

definite time, in expofure to common atmofpheric agents, without undergoing decompofition.

Surely, then, the *acrimony*, the *putridity*, the *caufticity*, and the *numberlefs mifchievous qualities* afcribed to bile by modern writers, are not real conditions of that liquid, but notions of their own heads. Far different from fuch falfe and fabricated ftatements is the action of that *natural foap*. Mild, wholefome, and incorruptible, the bitter of foda ftands ready to check the growth of acidity, and limit the progrefs of the alimentary mafs in its tendency to corruption.

If diforders of the alimentary canal are fometimes accompanied with a great flow of the bile, the bitter of foda flows to wafh away or neutralize the offending caufe in the ftomach or duodenum. As a mote in the eye ftimulates the lacrymal gland to fecern tears, and prevent its injurious effects, fo an acid ftimulus in the primæ viæ excites the liver to prepare and fend forth a fufficient quantity of the bitter of foda to overcome it. Such is its kind and pleafant operation. Never has Dr. M. found any thing like an experimental proof of its injurious qualities. Yet the mifchievous effects of fubftances fwallowed, and corrupting in the inteftines, have generally been afcribed to the bile, which is fpoken of with a vehemence and repetition of abufe that hardly any thing could exceed. As well might the naufea and giddinefs from a quid of tobacco be afcribed not to the herb, but to the fpittle which it ftimulated the falivary glands to pour into the mouth. With as much propriety might blifters of the fkin be afcribed to the ferous fluid effufed by the exhalent arteries, and not to the epifpaftic of cantharides.

Experiments have abundantly fhewn, that muriatic acid, poured upon bile, combines with the foda, and conftitutes common falt. In thefe experiments, the bitter of the bile is precipitated or fet loofe. It does not yet appear to be quite fettled wherein *bitters* exactly differ from *aftringents*. With refpect to their compofition, Dr. M. fufpects the difference is rather in *degree* than in *kind*. If fo, as *aftringency* confifts in the combination of the gallic acid and the earth of alum, there can be conceived nothing injurious to health in that portion of the fecretion of the liver.

If muriat of foda can be thus produced artificially, and *out of the animal body*, there can be no doubt of the poffibility of its formation by a natural procefs *within* the body, where the fpirit of falt is taken as an article of food or of medicine. GLAUBER feems firft to have practifed the extraction of this fingular and moderate acid from its alkaline bafis in fea-falt, (2 Boerhaave Chem. Proc. cxliii.) and to have given an account of its excellence in diet and domeftic œconomy. BOERHAAVE defcribes it as "remarkably agreeable to the ftomach, promoting ap-" petite, attenuating mucus, affifting digeftion, preventing putrefacti-" on," &c. and concludes the character of this liquid procured from fea falt by affirming, that "it is above all praife." (Ibid.) And HOFFMAN (Obs. Phys. Chem. Lib. 2, Obs. xvii.) fpeaks of the ufing of fpirit of falt with flefh broths as a common practice. It is rather a pity, that the oxygenated forms of this acid and their combinations have chiefly attracted the notice of the more modern chemifts.

Yet, though the fpirit of falt is fo fafe and valuable a preparation, the untutored appetite of man and other animals has led them to prefer the muriatic acid in conjunction with foda, that is, fea-falt or common falt, to the fpirit of falt itfelf. There muft be a reafon for this; and this

reafon,

reason, which is founded deep in the nature of things, is worthy to be searched for.

Thus the constitution of many creatures is supplied not only with the *bitter of soda* furnished by the liver, but with the *muriat of soda* taken in with the food. Then the question to be decided is, What are the chemical effects of the muriat of soda taken into the stomach with the aliment? Now, in creatures who eat substances which contain septon, or the basis of the acid of putrefaction, there may happen cases of surcharge, retention, or indigestion; and, at such times, may be formed within the stomach or intestines a portion of that offspring of corruption, the septic acid, after the same manner as in other putrefactive processes. Besides the agreeable stimulation afforded by the muriat of soda to the palate and stomach, its alkali lies ready to seize and neutralize any little parcel of septic acid that may happen to be produced. After this manner, that injurious acid is taken out of circulation, and the mild and salubrious spirit of salt is extricated in its stead. And, in a similar way, the soda of sea-salt has an operation in the stomach similar to the soda of the gall in the intestines. In the former case, the muriatic acid is set loose—in the latter, the bitter principle. In both the soda will quit its present connections, to combine with a stronger acid. In such cases cubic nitre is the new product. Where no acid is generated, there will be no decomposition of either. The reason, then, is apparent, wherefore it is better to take the muriatic acid *with soda* than without. There may be a farther use, that from this source the bile itself may derive its alkali.

Yet the muriat of soda is not only mingled with food when eaten, but many substances intended for nutriment are sprinkled, pickled, or impregnated with it in the larder and kitchen, before they are served up at table. Sea-salt is preferred for culinary purposes, not because it is the *strongest*, but the most *palatable* and *agreeable* of antiseptics. This may be best understood by shewing what soda can do alone.

Dr. Mitchill thinks, the operation of this alkali to overcome the harmful products of putrefaction, is amply supported by the ancient mode of embalming, as practised in Egypt. For Herodotus, in describing the process, particularly mentions, among other things, that the bodies were salted and hid in nitre for seventy days, (B. ii. cap. 85, 86.) "the use of which was to "dry up all their superfluous and noxious moisture." The Greek historian uses both the word νιτρον and the atticism λιτρον, to express the substance used for salting the bodies. Now, it is a settled point, that these words, though translated "nitre," mean not the "salt-petre" of the moderns, but soda, or the basis of sea-salt. This chemical correction, strengthened by the authority of Warburton, (3 Divine. Leg. b. 4. § 3.) contending that the body of Israel (Genesis, c. l. 2, 3.) was kept by the embalmers the customary time in nitre, (carbonat of soda) evinces how long ago it was known that the mineral alkali absorbed the septic fluids produced during the corruption of human bodies.

[To be concluded in our next Number.]

Experiments with the Eudiometer, made at Martinique, by Dr. George Davidson.

[Communicated to Dr. Mitchill, in a Letter, dated Fort Royal, April 7th 1798.]

THERE is a large proportion of oxygen contained in the atmofpheric air within the tropics. Having by accident broken the eudiometer which I had borrowed from Mr. Baker, I wrote to my friend George Wilson, of Bedford Street, to fend one to your addrefs, and one out here. I have fince repeated the experiment, both in the town of Fort-Royal, and the neighbouring heights. With equal meafures of nitrous air, obtained from brafs wire and atmofpheric air, there was an abforption of 67.100; but with two meafures of atmofpheric air, there was fomewhat lefs, from 52.100, to 58.100, that is to fay, from three meafures, or three hundred parts, there was left two and 42.100, to 48.100. I have alfo tried a mixture of fulphur and iron-filings, in a cylindrical glafs tube, and found above four-tenths of the air diminifhed. As thofe experiments were made in the prefence of a number of medical gentlemen, who have certified the fact, as they have obferved it them felves, I can therefore with confidence fpeak to the refult of our experiments.

We fhall now be more eafily able to account for the fpeedy rufting of metals, without having recourfe to the action of fuppofed muriatic foda diffolved in the air. The rancidity of oils, and the fpeedy fermentation of vinous liquors, may, perhaps, be alfo owing to the greater heat of the climate; but metals would be lefs apt to contract ruft from the greater heat, if the air contained only the proportion of oxygen, which it contains in Europe. Confumptions here are alfo more quickly fatal than they are in Europe. On fome of the Weft India iflands, fuch as Barbadoes and Antigua, where lefs rain falls, and where the heat of the air is kept at a fteady temperature by their fmallnefs, and the tradewinds blowing over the whole ifland, without being diverted by high or woody land, confumptions are not lefs fatal than in the larger and moifter iflands. This is a fact, of which all writers upon difeafes of the Weft Indies take notice; and which we would principally endeavour to account for, from the air being more highly charged with oxygen, than it is in Europe. If people labouring under pulmonary confumption, are fome times benefited by fea voyages within the tropics, we are to look for the temporary relief afforded in the fea-ficknefs; the irritable ftate of the ftomach, by fympathy preventing the the lungs acting in decompounding and abforbing oxygen; and in the determination to the furface carrying off the redundancy by the fkin. Their coftive habit, whilft at fea, proves that there is more than ufual determination to the furface—hence relief to the lungs.

To

To this Letter are subjoined the two following Certificates; the respectability of the witnesses, places the beforementioned facts beyond every doubt.—The first is from Dr. Chisholm.

[Within two miles of Fort Royal, upon an elevated situation.]

Dear Sir,

IT is with pleasure I comply with your request, respecting the proportion of oxygen in the atmosphere at this place, as ascertained a few days ago, by means of your eudiometer, and by a composition of steel filings and sulphur. By the first, the quantity I think was about 56.100: for although 57 was given by one trial, yet the medium of all those made was no more than 56. A similar result was given by the common glass tube—a proof, I should imagine, of the accuracy of the experiment made with the eudiometer. The result of the trials with the filings of steel and sulphur, I think, was about 40.100 parts. It appears to me to be a singular circumstance, that, although the ground on which the Ordnance Hospital stands is a perfect morass, partially drained, yet a result almost exactly similiar to that given by the experiments made with the eudiometer at my house, should take place, with the same instrument, and under circumstances in no way different. The proportion at the Ordnance Hospital, I think, has been 58.100; and at your house in the Grand Rue, a situation less swampy, and nearer the sea, it has been 67.100.

The situation of this place is high, dry, and enjoys as pure an air as it is possible to have in this country. An explanation of so singular a result, in situations so different, is perhaps more to be wished for than expected.

I am, &c.

C. Chisholm, M. D.
Inspector of Ordnance Hospitals.

Dr. Davidson, *Fort Royal.*

The second is from Capt. Harvey *and Surgeon* Lindesay.

WE whose names are hereunto subscribed, do certify, that we have seen the experiments mentioned in the former part of the letter, upon the composition of the atmospheric air; which were made both with Fontana's eudiometer, and a cylindrical tube with nitrous air, obtained from the dissolution of brass in the nitrous acid; and that we found 57.100 of vital air absorbed in the former, and above half by the latter.

W. M. Harvey, *Captain,* } *First West India Regt.*
John Lindesay, *Surgeon,* }

Miscellaneous

Miscellaneous Extracts.

Professor Göttling makes the following remarks *on the Origin of Carbon in consequence of treating Phosphorus with the Carbonat of Soda:*

HE first observes that he has formerly, in his Chemical and Pharmaceutical Almanack, for 1796, mentioned the decomposition of phosphorus by the carbonat of lime, and the carbonat of soda, whence are produced carbon and the phosphat of lime, or mineral alkali. It is certainly true, that carbon will thus be obtained, and it is not even necessary to inclose phosphorus with calcareous earth, or fossil alkali, in glass tubes; there is nothing farther required than to place a piece of phosphorus in a small glass vessel, to add a small portion of mineral alkali, dried in the air to a powder, and heat it gradually on a charcoal fire, till it become red hot: it is, however, necessary to increase the heat of the fire, by blowing it with a pair of bellows. The phosphorus will thus be kindled, and the greatest part of it consumed, without producing any farther effect on the mineral alkali. The residuum is of an uniform black colour; and if its salt be dissolved in water, there remains an insoluble carbon, of a deep black colour. The carbonat of potass may be employed for the same purpose, and with similar effect. Göttling's *Almanach für Scheidekünstler und Apotheker*, 1798, p. 1—3.

On the precautions necessary in melting the heavy spar, the same author observes, that in melting this substance with the carbonated alkali, to separate the barytes, it is necessary to proceed very slowly; as the mixture, in a glowing state, shoots out with violence, and renders the attention of the operator dangerous. A tough crust is formed on the surface of the melting mass; and if at the bottom of the glowing mixture any humidity should remain, which could not escape during too quick a process, this circumstance may occasion the sudden expulsion of the uppermost crust in all directions, as the fluid assumes the elastic form of vapour.—*Ibid.* p. 13.

When Prof. Göttling, in his last course of chemical lectures, was shewing by experiment, the usual mode of preparing the *Bononian phosphorus*, by exposing to a glowing heat gum tragacanth, and barytes reduced to powder and carefully separated from its iron, he observed that all the small cakes committed to the fire were melted into one mass, of the nature of enamel. It is well known that the usual phosphoric Bononian stones are more porous, and, if properly prepared, emit a red light in the dark, after having absorbed the rays of light during the day. Those, however, which the Professor obtained by the aforementioned process, afforded a white light, and acquired their luminous property in a very uncommon degree, by means of the electric spark.—*Ibid.* p. 14.

As the *yellow colour of the muriatic acid* is unquestionably owing to the *particles of iron* which it contains, the contrary effect taking place in many accurate chemical experiments must be ascribed to that ingredient. To effect, therefore, a separation of the iron, Prof. Göttling adds to every

every pound of the common muriatic acid, free from the vitriolic, half a drachm of a dry prussiat of kali. The fluid soon assumes a perfectly blue colour, and afterwards gradually acquires the colour and transparency of pure water; depositing at the bottom of the vessel a considerable portion of Prussian blue. After this, the clear fluid is poured into a tubulated retort, and distilled over till about one ounce remains. Thus the rectified acid becomes perfectly white, without containing the least particle of iron.—*Ibid.* p. 6.

The pharmaceutical operator is sufficiently acquainted with the difficulty of combining *lard, or fat, with quicksilver,* by trituration. This process may be much expedited, by adding a very small proportion of the flowers of sulphur to the mercury; a discovery lately communicated to GÖTTLING, by M. BERNSTEIN, an eminent surgeon in Germany. A mixture consisting of two ounces of hog's-lard and six ounces of quicksilver, requires only six grains of the flowers of sulphur, and the combination will take place in a few minutes. As so very small a proportion of sulphur is not likely to affect the efficacy of the ointment, this practical hint deserves the attention of the pharmacopolist.—*Ibid.* p. 15.

As the ammonia checks the *luminous property of phosphorus in azotic gas,* it is obvious that phosphorus will not appear luminous in gas obtained by depriving atmospheric air of its oxygen, by the hepatized ammonia; because, in this process likewise, a small portion of ammonia remains behind in the azotic gas. But if, for this purpose, the fixed hepar sulphuris be employed, the phosphorus will uniformly appear luminous. Prof. GÖTTLING observes, that he has kept azotic gas prepared from atmospheric air, for a whole year, over a solution of the liver of sulphur, which, in eudiometrical experiments, does not manifest the least trace of oxygen, and which, nevertheless, retains undiminished its power of producing the luminous appearance of phosphorus.—*Ibid.* p. 16.

The late Prof. GREN, of Halle, considers in his "Elements of Physics," third edition, 1797, *the combustion of phosphorus* as a gradual and slow process, which, in atmospheric air, though operating slowly, affords *the safest and most regular eudiometer.* He describes the necessary apparatus and regular process in the following manner: "An accurate cylindrical glass tube, with one end closed, must be procured, and divided by a scale into a sufficient number of small parts, at equal distances. This tube is filled with distilled or rain water; the air to be examined should be introduced in a tub, under water, and the quantity carefully marked, together with the state of the barometer and thermometer. Several needles are to be passed through a cork-stopper of a smaller diameter than the tube; on the projecting points of the needles is fixed a piece of pure and transparent phosphorus, while a linen thread is fastened to the lower end of the cork. This cork is placed under the mouth of the glass cylinder, in the water of which it will ascend, and the phosphorus on it will come in contact with the air contained in the cylinder. The apparatus is placed in a proper vessel with water, in which it is left standing. The phosphorus gradually melts, while it is luminous, and the cork may, from time to time, by means of the thread, be drawn under the water,

to

to wash away the acid adhering to the phosphorus, and thus render it more active. When, at length, all the oxygen gas is consumed, and when the remaining phosphorus is no longer luminous, the cork should be withdrawn, and the exact residue of the azotic gas, as well as the consumed oxygen gas, ought to be marked with the corresponding pressure of the barometer, and the degree of heat observed by the thermometer."

It must be admitted, says GÖTTLING, that this apparatus is very ingeniously contrived, but it would still be unsafe, if the remaining air should not be pure azote, but azotic gas filled with phosphoric vapours, and if that air should occupy a greater space than azotic gas alone; it is, at least, proved by the smell of this column of air, and the vapours arising after the admission of atmospheric air without the presence of phosphorus, that this body of air cannot be pure azote.—*Ibid.* p. 24—27.

M. SCHWARZ, a German apothecary, has lately observed, that, by dissolving ten grains of the nitrat of mercury in one ounce of distilled water, and adding two drachms of the mucilage of gum arabic, the nitrat is completely decomposed, while a copious grey precipitate is formed. M. JUCH, who was present during the experiment, is of opinion, that this decomposition must be ascribed to the astringent acid in the gum arabic; a fact of which he is sufficiently convinced by experience. Prof. GÖTTLING wishes that M. JUCH would give us a more satisfactory account of his experiments on this head, because he could not observe the least trace of an astringent acid in a gum perfectly transparent; or, at least, could not discover the presence of this acid, by treating gum arabic with a solution of the sulphat of iron. "Is it not possible," asks Prof. GÖTTLING, "that the nitrous acid here manifests a peculiar action on the gum; or that the gum is perhaps capable of depriving the mercurial calx of the nitrat of mercury, of a portion of its oxygen; and that it is thus reduced somewhat nearer to the metallic state?" He farther adds, that, in the course of his experiments, when mixing the nitrat of mercury with sugar, he once observed a similar decomposition take place, and that this circumstance tends to corroborate his conjecture.—*Ibid.* p. 28.

Several methods of separating the mineral alkali from common salt, and Glauber's salt, have lately been proposed; two of which have been noticed in the "Journal for Manufactures, Commerce, and Fashion," printed in German, for September, 1796. The first of these methods is that of Mr. HODSON, of Chester, who advises to treat common salt with powdered charcoal in a furnace of a peculiar construction. According to his opinion, the phlogiston of the carbon combines with the muriatic acid, which is thus reduced to a state in which it may, without difficulty, be volatilized. The other method is that suggested by M. BONEUIL, of Liverpool, who treats Glauber's salt with charcoal powder and iron, in a proper temperature. From the carbon and the vitriolic acid of the Glauber's salt, sulphur is said to be produced, and this again is to combine with the iron, and form an artificial, silicious sulphat. The disengaged mineral alkali is then obtained by elixation, after it has been allowed to crystallize.

Prof. GÖTTLING remarks, that he has endeavoured, by experiments conducted on a small scale, to ascertain the practicability of these methods

thods of disengaging the mineral alkali; but he found that the former was unsuccessful, and the latter unprofitable. *Ibid.* p. 31.

A more effectual and ingenious method of *separating the soda from sea-salt* has been proposed by Cit. VAN MONS.—By mixing twenty parts of common salt, and thirteen parts of the carbonat of potass, we obtain *digestive salt*, and carbonat of soda. But as these salts can only be separated with difficulty, VAN MONS first deprives the soda of its carbonic acid, by means of caustic lime: the soda thus rendered caustic remains uncrystallized in the ley, while the digestive salt forms crystals. The soda is then evaporated to dryness, and afterwards, with the addition of powdered charcoal, exposed to a red heat, in a crucible. By this process, it again becomes mild, and susceptible of crystallization, so that it may be completely purified. *Annals of Chemistry* (in German) Vol. I. p. 40.

In a similar manner, *potass may be effectually purified*, crystallized, and deprived of all its foreign, saline ingredients, without losing any part of its own substance. *Ibid.*

In the present dearth of medical information from the French Journals, whether tending to benefit or improve the practice of the healing art, we have not been able to supply our readers with interesting extracts, especially as our sources of domestic correspondence have lately been multiplied beyond example. Among the numerous Essays on subjects connected with medicine, we have, however, selected one, by J. J. VIREY, of the Val de Grace, read to the Medical Society of Paris, on the 7th of Messidor, in the 6th year, and entitled, "*General Reflections on the Aliment produced by the different Classes of the Animal Kingdom, and its Influence on the Human Body.*" Of this elaborate and curious paper we propose to give our Readers a satisfactory account, in a future Number of this Journal.

Domestic Intelligence.

HAVING heard it repeatedly asserted, that Dr. CROFT, of this City, had lost a child by the Vaccine Inoculation, we applied to him to learn the truth. He shewed us a letter that he had written to Mr. TRYE, of Gloucester, in answer to the same question, of which the following is an extract:

"Dear Sir,

"Hearing it is reported at Gloucester, that I have lost a child of my own, under inoculation for the Cow-pox, I am convinced it will afford you pleasure to know that the only one of my children which was inoculated for the cow-pox, went through the disease in the most desirable manner, and has ever since been in perfect health. About thirty children inoculated from his arm had the disease equally well, and without any subsequent illness, and I do believe that the whole number of children,

dren, who were most of them inoculated by Mr. Knight, surgeon to the Duke of York, had not so much as one hour of indisposition, or a single pustule, except on the arm. I trouble you with this for the purpose of preventing any misrepresentation that might tend to lessen the value of Dr. Jenner's observations upon this important subject.

"I am, &c.

Old Burlington Street, "RICHARD CROFT."
Oct. 20, 1799.

A correspondent recommends, and we cannot but agree in his sentiments, that in order *to prevent, in some measure,* a continuance of the delusion practised upon the credulous, by the venders of *quack-medicines,* an act of parliament should be solicited, that no certificate of a cure by such medicines be published in a newspaper, or pamphlet, unless certified by an affidavit before a magistrate; and enjoining also, that, if any vender of Patent, or other Quack Medicines, shall publish a false affidavit, or any certificate of a cure, not attested upon oath, he shall be liable to a severe penalty; and that every affidavit be registered in a particular office, previous to its publication. And if any suspicious person shall appear before a magistrate, he shall be authorized to require the affirmation, or even the affidavit, of a responsible person, respecting the character of him who proposes to swear to the cure.

The following Preamble to a Statute of Henry VIII. in favour of regular Physicians and Surgeons, is not inapplicable to the present *Age of Quackery*:—"Forasmuch as the science and cunning of Physic and "Surgery is daily, within this realm, exercised by a great multitude of "ignorant persons, of whom the greater part have no insight in the "same, nor in any other kind of learning; some also ken no letters on "the book; so far forth, that common artificers, as smiths, weavers, "and women boldly and accustomably take upon them great cures, in "which they partly use sorcery and witchcraft, partly apply such me-"dicines to the disease as be very noious, and nothing meet, to the high "displeasure of God, great infamy of the Faculty, and the grievous "damage and destruction of divers of the King's people, &c. &c."

A Work on Insanity is now preparing for the press, by John Reid, M. D.

A. and C. R. Aikin will resume their evening course of Lectures on Chemistry, with its application to arts and manufactures, in the middle of November next. Their morning course will commence later in the year. Further particulars may be known by applying to Mr. C. R. Aikin, Surgeon, No. 4, Broad Street Buildings.

CRITICAL

CRITICAL RETROSPECT OF MEDICAL AND PHYSICAL LITERATURE.

[FOREIGN AND DOMESTIC.]

A Third Dissertation on Fever, Part II.; containing an Inquiry into the Effects of the Remedies which have been employed with a View to carry off regular continued Fever, without leaving it to pursue its ordinary Course. By G. FORDYCE, M.D. F.R.S. &c. 8vo. pp. 200. Johnson, 1799.

THE author of this Dissertation has long been known in the medical world, both as a writer and teacher. The volume before us does not appear, in any degree, to derogate from his well-earned fame.

The means of cutting short the progress of Fever, which Dr. F. examines, are, venæsection, cathartics, antimony, and its preparations, which he details, together with his opinion respecting their modus operandi.

He compares ipecacuanha, and combines it with emetic tartar; cold and warm water, internally and externally; on which last he places little reliance. The next means Dr. F. examines, are epispastics, stimulant sudorifics, antispasmodics, antiputrescents, astringents, and decoct. cinchonæ cum infus. rosæ. On all these remedies, their mode of exhibition and action, he makes such observations as will well reward the perusal.

Essay on the Causes, early Signs, and Prevention of Pulmonary Consumption: For the use of Parents and Preceptors. By THOMAS BEDDOES, M.D. Second edition, much enlarged, 8vo. pp. 340. Price 6s. Longman and Rees. 1799.

Our readers will conclude, from the title of this work, and the persons for whose use it is written, that the *cure* of consumption forms but a small part of the author's design. His object is a more important and useful one, viz. that of preventing the formation of the disease. On this subject, we might extract many valuable hints and admonitions respecting climate, particular professions or callings exempt from the disorder, others remarkably liable to it; diet, dress, age, habit of body, damp walls or beds, cautions, domestic rules for the prevention of consumption, &c. &c.; but as we think the work itself should be in the hands of all parents and guardians, we shall conclude with expressing our cordial approbation both of the design and execution.

Lectures on Diet and Regimen, &c. By Dr. WILLICH.

[Continued from our last Number, pp. 301.]

After having commented at large on the mischievous tendency of patent or quack medicines, made some cursory observations on fashionable

fashionable complaints, and investigated the nature and functions of the skin, the author concludes the introduction with an Essay on the Physical Education of Children. From this last we shall quote the following passages:

"There is no practice more detrimental to the powers and energy of man in the first period of his evolution, than that of immediately sinking the tender infant in a soft feather-bed. In this situation, all the organs become extremely relaxed, and we lay the foundation of a very serious malady—a *sweating skin*; the source of constant colds, tooth-achs, head-achs, catarrhs, and innumerable other complaints. For these, and similar reasons, I would advise parents to lay their children, from the very hour of their birth, on soft and cooling mattresses, under thin blanket covers, or cotton quilts, which do not incommode the body, leave the hands and arms at liberty, and are not liable to excite too great a degree of heat. In the intense cold of winter, an additional blanket may be used, which, however, should be removed when the weather turns milder, and the child grows stronger. But the greatest mischief arises from bolsters or pillows filled with feathers; which must, after a certain time, produce uncleanliness and a disagreeable smell. Such a pillow is calculated to collect and retain mephitic vapours; and, for this obvious reason, it cannot but be unsafe to sleep for a whole twelvemonth with one's head reposed on such a mass of acrid exhalations. This inconvenience may be easily avoided, by furnishing children with cushions filled with horse-hair, or with the softest bran, previously well beaten; the best for this purpose is the bran of oats. The great advantage of these pillows is, that they admit moisture to pass through them, consequently they will always remain dry, and may from time to time be renewed, while they preserve a moderate and regular degree of warmth.

"*Cleanliness*, in domestic life, is one of the cardinal virtues, and an essential requisite to the proper physical eduction of children. Indeed, I cannot help remarking, that this is, perhaps, the *only* province of parental care, in which we *never* can do *too much*. For this end, we ought not to neglect the article of linen, as the frequent change of it is of more consequence than many parents are aware of. A child is much more liable to perspire than an adult; the natural effect of which is, that its linen is more readily soiled, and rendered unfit for wearing. I would therefore advise all parents, who can afford it, to give their children clean dry linen *every day*. An undoubted proof of the utility of this practice is, that instances have occurred of children being cured of the rickets, when, from the first appearance of that complaint, they have been daily furnished with clean linen, well dried, and occasionally smoaked with juniper berries, frankincense, or other perfuming substances, in order to expel the moisture, which is absorbed by linen. But if a clean change cannot be conveniently had every day, the night-shirt, as well as that of the day, ought to be regularly dried and perfumed if necessary.

"Lastly, let the dress of children be light; the head and breast, during the first months, may be covered, though very slightly; but as soon as the hair is sufficiently strong to afford protection, there is scarcely any necessity for hats or caps, unless in rainy or cold seasons. The breast and neck, too, acquire more firmness, and are rendered hardier by keeping them uncovered; as our frequent colds and sore throats, chiefly

originate

originate from the abſurd habit of wearing boſom friends and ſtiffened cravats.

"I ſhall conclude theſe obſervations with an hiſtorical anecdote from Herodotus, which clearly illuſtrates the advantage attending the cool regimen of the head. This judicious and learned writer informs us, that, after the battle fought between the *Perſians*, under Cambyses, and the *Egyptians*, the ſlain of both nations were ſeparated; and upon examining the heads of the Perſians, their ſkulls were found to be ſo thin and tender, that a ſmall ſtone would immediately perforate them; while, on the other hand, the heads of the Egyptians were ſo firm, that they could ſcarcely be fractured by the largeſt ſtones. The cauſe of this remarkable difference, Herodotus aſcribes to a cuſtom the Egyptians had of ſhaving their heads from the earlieſt infancy, and going uncovered in all ſtates of the weather; whereas the Perſians always kept their heads warm, by wearing heavy turbans.—pp. 92—95.

The whole work is divided into *twelve* chapters: in the firſt, the author treats "*On the Means of preſerving Health and prolonging Life.*"—We extract the following paſſage from his enumeration of the conditions neceſſary to attain a long and healthy life.

"*Fourthly*, A gradual, and not too precipitate culture of the phyſical and mental faculties may be properly conſidered as an excellent preliminary ſtep towards prolonging life. The age of man bears a certain proportion to the growth of his various powers; and the longer we can protract the different ſtages of life, the more extended will be the whole compaſs of our exiſtence. As it is evidently the deſign of nature, that man ſhould live longer than moſt of the lower animals, he of courſe requires a greater ſpace of time to develope the faculties both of mind and body. Animals, which arrive ſoon at the perfection of their nature and form, live but a ſhort time. Man requires upwards of twenty, and, according to ſome, twenty-five years, before he attains to full maturity; and if it be a rule of nature, that animals in general live eight times the number of years which is requiſite to the attainment of their perfect growth, a ſtrong preſumption ariſes, that the age of man might be extended to nearly two hundred years. In the works of the illuſtrious Bacon, and particularly in his "Hiſtorical View of Life and Death," are given many ſtrong arguments to confirm this aſſertion. "Surpriſing as it may appear to ſome, there is a poſſibility, at leaſt, if not a probability, that the term of human life might be ſtill farther extended, if mankind could by any means be perſuaded to return to that primeval ſtate of nature, from which hiſtory and tradition have furniſhed us with ſuch aſtoniſhing, and almoſt incredible inſtances of longevity. It is not my intention here to inquire into the degree of credit, which may be due to the accounts of ſome extraordinary facts of individual longevity recorded by the ſacred hiſtorian; as the learned vary much in their opinion, relative to the mode of computation, and whether the Solar, the Arabic, or the Lunar year, or a ſtill ſhorter meaſure of time, is alluded to. This, at leaſt, ſeems to be generally admitted, that the antediluvians enjoyed an enviable, uninterrupted ſtate of health; that their vegetable aliment, and general mode of living, were extremely ſimple and nowiſe prejudicial; that the conſtitution and temperature of the globe itſelf muſt have been greatly affected and deteriorated, in conſequence of the flood, or other cauſes of which we are ignorant; and laſtly, that

thoſe

those impetuous and inordinate appetites and passions, which, like flames, may now be said to consume the powers of life, were then either less violent, or exerted their baneful influence at a much later period of life."

[To be concluded in our next Number.]

Memoirs of the Medical Society of London, vol. v. 8vo. 470 pp. *Johnson* London, 1799.

When we commenced the analysis of this work, in the sixth number of our Journal for August, pp. 29—35, we were then assured, that it would be published in the course of that month. Unforeseen accidents, however, delayed the publication; and in the mean time, a case of Cæsarian section, from the Lying-in-Hospital at Manchester, was communicated to the Society, with an engraving representing the bones of the pelvis, which was thought proper to be annexed to the volume as an appendix. As we have already published several papers, tending to discourage and condemn this mode of delivery, we should think it but justice to the Gentlemen concerned in the present instance, to give a particular account of the case, and the dimensions of the pelvis; all which tend to shew that this section offered the only chance of saving the life of the mother. Want of room, at present, obliges us to postpone this act of justice.

Biographia Medica; or, Historical and Critical Memoirs of the Lives and Writings of the most eminent Medical Characters that have existed from the earliest Account of Time to the present Period, with a Catalogue of their Literary Productions; by BENJ. HUTCHINSON, 2 vol. 8vo. each 546 pages, 16s. *Johnson*. London. 1799.

In this work, the lives of the authors introduced are arranged in alphabetical order. The style is neat and unaffected, and biography has always charms sufficient to secure readers. On this account, as well as for the convenience of reference, we conclude that few Medical Libraries will be without the Biographia Medica.

Versuch einer Chronologischen Uebersicht, &c.—An attempt to exhibit the literary history of medical science, in chronological order, with a view to promote and facilitate its study, by Dr. J. G. KNEBEL, 8vo. xxxiv. and 377 pp. (1 rixd. 8 grosch. or 5s. 6d.) 1799. *Breslau*. Korn, senior.

Medicine has long felt the want of a work which would furnish the medical student with such information relative to this science, as is contained in " SAXII *Onomasticon*" with respect to the sciences in general. A work of this nature, however, should comprise somewhat more than a mere catalogue, in which the years of birth and death, the principal residence and public office held by physicians, or even their chief works, together with the best editions, are pompously recorded. Neither " *Matthiæ conspectus historiæ medicorum chronologicus*," nor KESTNER's Lexion of Medical Literary Men, nor ELOY's work on the same subject, (both in German) are sufficient for that purpose; and the practitioner, who has not access to great libraries, and cannot afford to purchase one for his private use, is frequently at a loss, especially if he is desirous

desirous to make himself acquainted with the literary history of this science.

Dr. KNEBEL has arranged the present work in chronological order, and, in this respect, imitated Saxii Onomasticon. The whole of this chronological view is divided into four distinct periods: The first extends to HIPPOCRATES; the second to the death of GALEN; the third to PARACELSUS; and the fourth to the year 1797. The physicians still living are, however, not comprised in this retrospect, as the author generally begins his sections from the demise of medical writers. To every chronological table he has prefixed a summary recapitulation of the events and changes that have taken place during the period of which he treats; this retrospective account could be only brief and very imperfect. Several medical characters, among whom are some of considerable reputation, have been omitted; while others of little merit, particularly in the first period, have been inserted. Nor are the names of authors printed with uniform correctness, though the editor has not neglected to give an extensive list of *errata* and *addenda*; for instance, instead of LIPPENIUS we find *Lixenius*, and sometimes *Lipenius*; instead of ERASTUS, *Ernst*; for CHRISTOPH. DE HONESTIS, *de Honestiis*, &c.

Notwithstanding these errors and imperfections, we are not acquainted with a later and better historical work, or one which we might with more propriety recommend to the medical tyro. The author is, doubtless, entitled to some praise and encouragement, that he may, in a subsequent edition, improve his labours on this thorny path.

Tableau du regne vègètal selon la méthode de Jussieu.—A View of the Vegetable Kingdom, according to the method of Jussieu; by E. P. VENTENAT, of the National Institut of France; and one of the librarians (conservateurs) at the Pantheon. Four volumes, together 2158 pp. and 24 plates; 8vo, *Paris, an 7* (1799) price 21 livres, or 24 liv. free through all the departments. Publ. by the author and Drisonnier.

Although the system of the celebrated Jussieu is one of the most ingenious we possess in Botany, as this author has furnished us with excellent illustrations of many undetermined botanical characters, yet a work was still wanted for the elucidation of obscure passages, and the embellishment of others that were heavy and dry. M. VENTENAT, who is already known to the learned by his *Principes de la Botanique*, on which he gave public lectures in the *Lycée Republicain*, as well as by a variety of essays inserted in different periodical works, has here attempted to treat of all branches of botany in a comprehensive systematic work, grounded chiefly upon the principles of Jussieu. He has carefully availed himself of the observations made by cotemporary botanists, while he has also enriched it with his own remarks, for which he found an ample field in the extensive herbals at Paris, as well as in the celebrated botanical garden belonging to the Museum, and that of M. CEL.

The principal subjects contained in the first volume relate to the philosophy of botany. The author gives not only the terminology of plants, in alphabetical order, according to LINNÆUS, JUSSIEU, GAERTNER, and others, but he illustrates the terms with apposite examples, and accompanies the description of plants with physiological and œconomical remarks. The discoveries of GREW, MALPIGHI, DUHAMEL, BONNET, SAUSSURE, DAUBENTON, SENNEBIER, BERTHOLET, &c. are

are faithfully recorded; and that important branch of botany which relates to agriculture, has received many valuable additions from the useful researches of DUHAMEL, TILLET, TESSIER, ROZIER, PARMENTIER, and other bucolic writers.

The second and third volumes of this classical work contain the genera of plants, or the system itself, together with an account of some of the principal species rarely found in Europe. In describing the genera, our author has paid particular attention to those botanists who have determined them, as well as to those who have adopted and exhibited them in the most correct and conspicuous manner. He has also subjoined to every plant its synonymous and vernacular name. On the union of the different sexes of plants, and on the combination of those of the same sex, M. VENTENAT has made several very ingenious observations; and as the whole of botanical science consists in properly distinguishing these combinations and dissimilarities, he has developed this delicate subject in a manner almost completely satisfactory.

In the fourth volume, the author first treats of some plants which are remarkable by their peculiarities, and therefore appear to form new orders; but he likewise mentions several others which have already, by former botanists, been comprised in the number of certain families, for instance, the *Cuscuta*, *Tozzia*, *Globularia*, *Samolus*, &c. yet he does not neglect to state the causes which induced him to separate such plants from the families in which they had been placed by his predecessors. Next we meet with an appendix, containing the remarks that occurred to the author since the work has been committed to the press; to which is added, an index of the names, genera, species, and synonymous terms, in the Latin and French languages; together with a complete list of the authors and their works quoted in these volumes. The plates and the explanations annexed are executed in a superior style; they are drawn by the celebrated artist, J. H. REDOUTÉ, and engraved by SELLIER; our limits, however, do not permit us to detail their multifarious contents.

The whole is concluded with a methodical table, which greatly facilitates the retrospective view of the whole system, and enables the reader to find, without trouble, the proper place and destination for every plant. Indeed, the retrospect itself is equally easy; as the general table, in every instance, refers the reader to the following, which are more particularized: and this table, by comprising all the genera, renders the work peculiarly valuable; in the composition of which the industrious author has bestowed the attention requisite to a correct and elegant performance.

Grundriss der Physiologia Pathologica:—Elements of pathological physiology; or the doctrine of the structure, composition, and functions of the human body and its parts, in a preternatural state. Second and last volume, containing the Natural Functions, by E. F. HECKER, M. D. 8vo. 238. pp. *Halle*, Hemmerde, 1799.

The author began this useful small work with the first volume, published as late as the year 1791. In the present part, he treats, in his usual perspicacious manner, of the appetite for food; of mastication and deglutition; of the great stomachic gland; of the liver, bile, and gall-bladder, when he endeavours to prove at large, that the bile is subject to rancidity; of the spleen; the integuments of the abdomen, the peritonæum,

ritonæum, the mesentery, and the omentum; of the intestines; of the system of the lymphatics, where the author gives his opinion at some length, that the whole alimentary function principally depends upon the lymphatics;—of sanguification; of chylifaction; of the secretions; and, lastly, of the urinary organs—without however touching on the sexual functions. On every occasion, the learned author has illustrated his propositions by quotations from the latest and most eminent writers; while, under every head, he has added a list of the most important medical works relative to the subjects under consideration.

Schwedische Annalen, &c. The Swedish Annals of Medicine and Natural History: Edited by K. A. Rudolphi, M. D. &c. &c. Vol. I. No. I. 8vo. 16 sheets, price 20 grosch, or about 3s. *Berlin,* Lange, 1799.

The editor of these Annals is entitled to the thanks of the medical world, for having furnished us with a periodical work of such extensive and useful tendency. The literature of Sweden has but too long remained to us a *terra incognita,* although the learned of that country have always held a distinguished rank in the literary republic, especially in the departments of Natural History and Physics.

Dr. Rudolhpi is very favourably situated for communicating to us from that quarter, whatever is valuable and interesting; he carries on active correspondence with several literary men of that kingdom; and the University library of Greifswalde, is daily open to his inspection; while a copy of every work printed in Sweden, is regularly transmitted to that German College, where he fills the place of Adjunct to the Medical Faculty, and Anatomical Dissector.

The first number of this work contains a great variety of essays, critical and analytical, as well as accounts and reviews of new medical works. The most remarkable among the former, are the following:

I. On the progress of anatomy in modern times, by Adolph Murray. II. A description of a collection of natural curiosities, by A. U. Grill, of Söderfors; accounts of a living *Simia Apella,* a living *Cavia Aguti,* and an ostrich which died of too great obesity. III. On the history of zoological knowledge in Sweden, prior to the time of Linnæus; by Gust. Paykull. IV. A discourse on the establishment and improvement of medical science in Sweden, by I. G. Acrel. V. Analysis of the New Transactions of the Royal Academy of the Sciences at Stockholm, for 1797. VI. Analytical account of a work, entitled, "The Physician and Naturalist, Vol. XII." Among other instructive extracts from this work, we met with a letter from Tunis, written in 1795, by H. C. Gersonius, whose account of the plague is the more interesting, as he successfully employed the *arnica* against this formidable disease. We are anxious to see his account of the plague, and lues, which he has promised to transmit to the College of Physicians at Stockholm.

[To be continued in our next Number.]

NEW MEDICAL PUBLICATIONS IN OCTOBER.

Memoirs of the Medical Society of London, Vol. V. consisting of original Papers, and particular Cases of Disease; also the Natural History of human intestinal Worms; illustrated with Plates. 9s. 6d. boards
Johnson.

Experiments with the Metallic Tractors in various Diseases, as published by Surgeons HERHOLDT and RASN; of the Royal Academy of Sciences, Copenhagen; translated into English by Mr. C. KAMPFMULLER. Also, Reports of Cases in England, demonstrating the efficacy of the Metallic Practice in complaints, both upon the human body, and on horses, &c. by medical and other respectable characters: edited by BENJAMIN D. PERKINS, A. M. 5s. boards. JOHNSON.

Hints on Temperance and Exercise; shewing their advantages in the cure of disorders, and by which medicines are considerably lessened; by J. TWEEDIE, Surgeon, &c. 2s. 6d. WILLIAMS.

The Anatomy of the Gravid Uterus, with practical inferences relative to Pregnancy and Labour; by JOHN BURNS, Surgeon in Glasgow. 8vo. 6s. boards. LONGMAN and REES.

An Essay on the Properties of Digitalis Purpurea, or Foxglove, by JOHN FERRIAR, M. D. 1s. 6d. CADELL and DAVIES.

NEW PUBLICATIONS IN FRANCE.

Clinique Chirurgicale, relative aux plaies, &c. Clinical Surgery, as relating to wounds; intended as a Sequel to the Art of applying Bandages. By LOMBARD, Member of the National Institut. 8vo. (price 1 rix-dollar, 6 grosch, or about 5s.) *Strasburg.* Levrault.

Tableau élémentaire de la séméiotique, &c. Elements of Semiology; or, the Knowledge of the Signs of Diseases. By BROUSONNET. 8vo. (12 grosch, or 2s.) *Ibid.*

Elemens de Myologie, &c. Elements of Myology and Syndesmology. By TH. LAUTH. Two vols. 8vo. (price 2 rix-dollars, or 8s.) *Ibid.*

Elemens de la Médecine, Theoretique et Pratique, &c. Elements of the Theory and Practice of Medicine; containing the general pathology, the epidemic constitutions of Hippocrates, and their analysis, the doctrine of prognostics, and nosology. By TOURTELLE. Three vols. 8vo. (price 4 rix-dollars, or 16s.) *Ibid.*

NEW PUBLICATION IN GERMANY.

Uber den Einfluss des Medicinal-wesens auf den Staat, &c.—On the influence of medical affairs on the state; and on the neglected medical police in most of the German states: by the Aulic Counsellor SCHÖPF, president of a medical college, &c. 8vo. (pr. 6 grosch or 1s.) 1799.

TO CORRESPONDENTS.

We acknowledge the receipt of communications from Messrs. Spry, Fowler, Ayrton, Davies, Rowlands, Custance, Mills, Huggan, Reeve, Thackeray, T. P. Graham, F. A. Christie, Franks, Dr. Vaughan, &c. which shall be noticed without delay.

The letter, signed S. N. dated Oct. 9, 1799, cannot, for obvious reasons, be inserted; for although it contain perhaps a satisfactory answer to another letter marked with initials, yet it would be inconsistent with our plan, to extend anonymous *disputes.*

ERRATA.

P. 265, l. 34, *for* "reticular," *read* "cuticular."
P. 284, l. 22, *for* "particularly injurious," *read* "equally deleterious."
P. 284, l. 35, *for* "cause," *read* "cure."